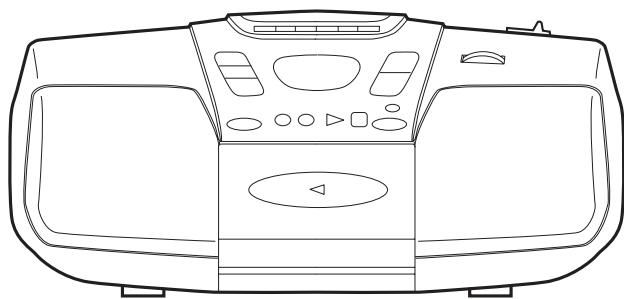




**CSD-TD24**  
**CSD-TD26**  
**CSD-TD27**  
**CSD-TD28**

EZ,K  
U  
U  
U



# SERVICE MANUAL

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COMPACT DISC STEREO  
RADIO CASSETTE RECORDER

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BASIC TAPE MECHANISM: ZZM-1 AR5NC  
BASIC CD MECHANISM: DA11T3C

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- This Service Manual is the “Revision Publishing” and replaces “Simple Manual” CSD-TD26/TD27/TD28 <U>, (S/M Code No. 09-011-443-0T1) and CSD-TD24 <EZ,K>, (S/M Code No. 09-012-443-0T2).

**aiwa**  
S/M Code No. 09-013-443-0R1

REVISION  
DATA

# SPECIFICATIONS

## <Tuner section>

Frequency range	87.5 - 108.0 MHz
FM	Antenna: Rod antenna
AM<U>	530/531 - 1,710/1,602 kHz, (10/9 kHz step) Antenna: Ferrite bar antenna
MW<EZ,K>	531/530 - 1,602/1710 kHz, (9/10 kHz step) Antenna: Ferrite bar antenna
LW<EZ,K>	153 - 288 kHz Antenna: Ferrite bar antenna

## <Deck section>

Track format	4 tracks, 2 channels
Frequency range	Normal tape: 50 - 12,500 Hz (EIAJ)
Recording system	AC bias
Erasing system	Magnet erase
Heads	Recording/playback head (1) Erasure head (1)

## <CD player section>

Disc	Compact disc
Scanning method	Non-contact optical scanner (semiconductor laser)

## <General>

Speaker	100 mm cone type (2)
Output	Headphones jack(stereo mini-jack)
Power output	U: 2.5 W + 2.5 W (EIAJ 7 ohms, T.H.D. 10 % DC) EZ: 2.9 W + 2.9 W (DIN MUSIC POWER) 2.5 W + 2.5 W (EIAJ 7 ohms, T.H.D. 10 % DC) 1.9 W + 1.9 W (DIN 1 %, Rated Power) K: 2.5 W + 2.5 W (EIAJ 7 ohms, T.H.D. 10 % DC) 1.9 W + 1.9 W (DIN 1 %, Rated Power)
	DC 12 V using eight size C (R14) batteries
	U: AC 120 V, 60 Hz EZ,K: AC 230 V, 50 Hz
	15 W
	414 x 183 x 235 mm (16 <sup>3</sup> / <sub>8</sub> x 7 <sup>1</sup> / <sub>4</sub> x 9 <sup>3</sup> / <sub>8</sub> in.)
Power requirements	3.2 kg (7 lbs.1 oz.) (excluding batteries)
Power consumption	
Dimensions (W x H x D)	
Weight	

• Design and specifications are subject to change without notice.

## ACCESSORIES / PACKAGE LIST

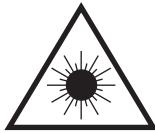
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CHA-903-010	IB,U(ESF) FM<U>	
1	8B-CHA-906-010	IB,EZ(9L) FM<EZ>	
1	8B-CHA-905-010	IB,K(E) FM<K>	
△ 2	87-A80-109-010	AC CORD, HK7281 BLK U<U>	
△ 2	87-A80-081-010	AC CORD SET ASSY, EZ BLK<EZ, K>	

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

## WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- s Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- s Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

## VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käytäjän turvallisuusluokan 1 ylittäville näkymättömälle lasersäteilylle.

## WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

## CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

## ATTENTION

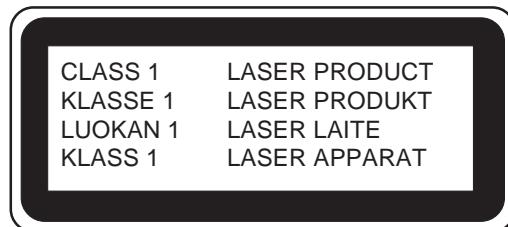
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

## ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

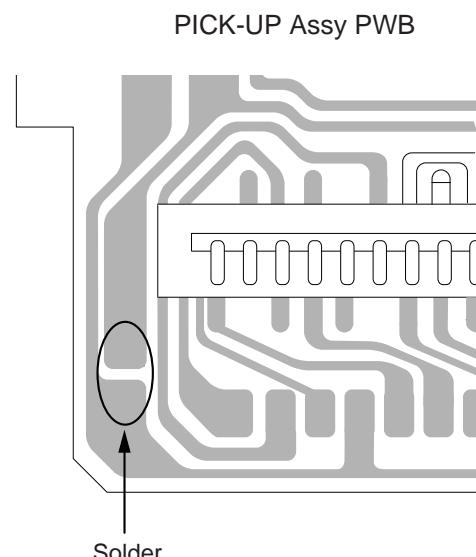
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



## Precaution to replace Optical block (SF-P101NR)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in the right figure.



# ELETICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C805	87-012-365-080	C-CAP,S 0.027-25VBK	
	87-A21-928-010	IC,LC72131D-N		C806	87-012-365-080	C-CAP,S 0.027-25VBK	
	87-A21-193-010	IC,TA8227P		C807	87-010-406-080	CAP, ELECT 22-50V	
	87-A21-520-040	C-IC,M61509FP<U>		C808	87-010-405-080	CAP, ELECT 22-50V	
	87-A21-443-040	C-IC,M62495AFP<EZ, K>		C809	87-010-401-080	CAP, ELECT 1-50V	
	87-A20-446-010	C-IC,LA9241ML		C810	87-010-401-080	CAP, ELECT 1-50V	
	87-A21-319-010	C-IC,LC78622NE		C811	87-010-178-080	CHIP CAP 1000P	
	87-A21-891-010	C-IC,MM1469XH		C812	87-010-178-080	CHIP CAP 1000P	
	8B-CHA-600-010	C-IC,LC867132V-5T67		C816	87-010-180-080	C-CER 1500P	
	87-A21-550-010	IC,TA2149N		C817	87-010-180-080	C-CER 1500P	
	87-A21-607-010	IC,NJM14558LD		C821	87-010-401-080	CAP, ELECT 1-50V	
TRANSISTOR				C822	87-010-401-080	CAP, ELECT 1-50V	
	87-026-447-080	TR,2SC1740SR		C823	87-010-178-080	CHIP CAP 1000P	
	87-026-463-080	TR,2SA933SR		C824	87-010-178-080	CHIP CAP 1000P	
	89-318-154-080	TR,2SC1815Y		C829	87-010-178-080	CHIP CAP 1000P	
	89-112-965-080	TR,2SA1296GR		C830	87-010-178-080	CHIP CAP 1000P	
	87-026-291-080	TR,DTC124XS		C834	87-010-248-080	CAP, ELECT 220-10V	
	87-026-464-080	TR,DTC114TS		C843	87-A11-132-080	CAP, TC U 0.01-50 KB	
	87-A30-476-010	TR,KTA1046Y		C844	87-018-124-080	CAP, CER 270P-50V	
	87-026-462-080	TR,2SC1740SR		C845	87-010-178-080	CHIP CAP 1000P	
	89-109-332-380	TR,2SA933RS		C846	87-010-263-080	CAP, ELECT 100-10V	
	87-A30-515-080	TR,2SA1979O/Y		C851	87-010-186-080	CAP, CHIP 4700P	
	89-320-011-080	TR,2SC2001K<EZ, K>		C852	87-018-131-080	CAP, TC U 1000P	
	87-A30-288-040	C-TR,DTC114YKA		C853	87-A11-132-080	CAP, TC U 0.01-50 K B	
	87-A30-287-040	C-TR,DTC114TKA		CN201	87-099-018-010	CONN,16P	
	87-A30-455-040	C-TR,DTA144EKA		CN801	87-A60-110-010	CONN,4P V S2M-4W	
	87-026-239-080	C-TR,DTC114TK		CNA302	8B-CDA-629-010	CONN ASSY,6P MA-TU	
	87-026-237-080	C-TR,DTC124XK		CNA801	8B-CDA-630-010	CONN ASSY,4P RPH	
	87-A30-283-040	C-TR,DTA114YKA<EZ, K>		L108	87-003-097-080	COIL,1.0UH K LAL02	
	89-111-624-080	C-TR,2SA1162Y		L801	87-007-342-010	COIL,OSC 85K BIAS	
	89-503-025-010	C-FET,2SK302GR<EZ, K>		SW801	8Z-CD9-609-010	SW,SL 1-6-2 PS62D01	
DIODE				CD C.B			
	87-A40-650-080	ZENER,MTZJ6.8A<EZ, K>		C30	87-010-260-080	CAP, ELECT 47-25V	
	87-A40-509-080	ZENER,MTZJ6.8C<U>		C251	87-010-405-080	CAP, ELECT 10-50V	
	87-070-345-080	DIODE,IN4148		C263	87-010-178-080	CHIP CAP 1000P	
	87-A40-648-080	ZENER,MTZJ8.2A		C264	87-010-178-080	CHIP CAP 1000P	
	87-A40-234-080	ZENER,MTZJ5.6A		C265	87-010-263-080	CAP, ELECT 100-10V	
	87-017-978-080	DIODE,1N4003		C266	87-010-263-080	CAP, ELECT 100-10V	
	87-017-932-080	ZENER,MTZJ6.2B		C267	87-010-385-080	CAP, ELECT 220-25V	
	87-020-465-080	DIODE,1SS133		C268	87-010-385-080	CAP, ELECT 220-25V	
	87-A40-465-010	DIODE,FR202		C271	87-010-221-080	CAP, ELECT 470-10V	
	87-017-090-080	ZENER,HZS5B3		C272	87-010-221-080	CAP, ELECT 470-10V	
MAIN C.B				C278	87-010-385-080	CAP, ELECT 220-25V	
	C211	87-A11-603-080	C-CAP,S 0.15-16 K B	C279	87-010-235-080	CAP, ELECT 470-16V	
	C212	87-A11-603-080	C-CAP,S 0.15-16 K B	C301	87-016-495-000	CAP,E 3300-25 M SMG	
	C215	87-016-460-080	C-CAP,S 0.22-16 B	C306	87-010-404-080	CAP, ELECT 4.7-50V	
	C216	87-016-460-080	C-CAP,S 0.22-16 B	C307	87-010-401-080	CAP, ELECT 1-50V	
	C231	87-010-213-080	C-CAP,S 0.015-50 B	C308	87-010-221-080	CAP, ELECT 470-10V	
	C232	87-010-213-080	C-CAP,S 0.015-50 B	C311	87-010-265-080	CAP, ELECT 33-16V	
	C233	87-A10-201-080	C-CAP,S 0.33-16 KB	C312	87-010-385-080	CAP, ELECT 220-25V	
	C234	87-A10-201-080	C-CAP,S 0.33-16 KB	C321	87-010-197-080	CAP, CHIP 0.01 DM	
	C235	87-016-669-080	C-CAP,S 0.1-25 K B	C322	87-010-263-080	CAP, ELECT 100-10V	
	C236	87-016-669-080	C-CAP,S 0.1-25 K B	C324	87-010-260-080	CAP, ELECT 47-25V	
	C237	87-010-371-080	CAP, ELECT 470-6 .3V	C325	87-010-405-080	CAP, ELECT 10-50V	
	C239	87-010-197-080	CAP, CHIP 0.01 DM<U>	C401	87-010-403-080	CAP, ELECT 3.3-50V	
	C239	87-010-805-080	C-CAP,S 1-16 Z F<EZ, K>	C402	87-010-197-080	CAP, CHIP 0.01 DM	
	C240	87-010-197-080	CAP, CHIP 0.01 DM<U>	C403	87-010-263-080	CAP, ELECT 100-10V	
	C240	87-010-805-080	C-CAP,S 1-16 Z F<EZ, K>	C404	87-010-248-080	CAP, ELECT 220-10V	
	C247	87-010-401-080	CAP, ELECT 1-50V	C405	87-010-197-080	CAP, CHIP 0.01 DM	
	C248	87-010-401-080	CAP, ELECT 1-50V	C406	87-010-374-080	CAP, ELECT 47-10V	
	C310	87-010-248-080	CAP, ELECT 220-10V	C407	87-010-178-080	CAP, CHIP 1000P	
	C316	87-010-263-080	CAP, ELECT 100-10V	C408	87-010-198-080	CAP, CHIP 0.022	
	C317	87-010-197-080	CAP, CHIP 0.01 DM	C409	87-010-248-080	CAP, ELECT 220-10V	
	C801	87-010-248-080	CAP, ELECT 220-10V	C410	87-010-263-080	CAP, ELECT 100-10V	
				C411	87-A11-177-080	C-CAP,S 0.15-16 K B	
				C412	87-010-401-080	CAP, ELECT 1-50V	
				C413	87-016-369-080	C-CAP,S 0.033-25 B K	

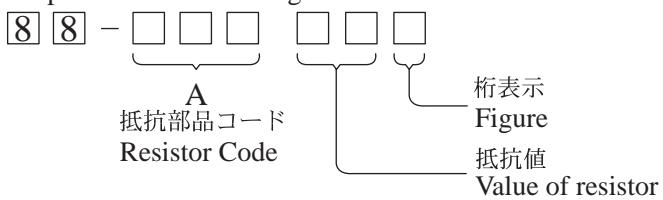
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C414	87-010-405-080		CAP, ELECT 10-50V	CN202	8A-CH4-687-010		CONN, 4P V 2.5
C416	87-010-545-080		CAP, ELECT 0.22-50V	CN205	87-A60-109-010		CONN, 2P V S2M-2W
C417	87-012-157-080		C-CAP,S 330P-50 CH	CN301	8A-CH4-689-010		CONN, 3P V 2.5
C418	87-010-213-080		C-CAP,S 0.015-50 B	CN401	87-A60-424-010		CONN, 16P V TOC-B
C419	87-A11-608-080		C-CAP,S 0.33-25 K B	CN403	87-099-201-010		CONN, 8P 6216 H
C420	87-016-369-080		C-CAP,S 0.033-25 B K	CN802	8A-CH4-687-010		CONN, 4P V 2.5
C421	87-A11-177-080		C-CAP,S 0.15-16 K B	CNA202	8B-CDA-633-010		CONN ASSY, 4P SP
C422	87-010-184-080		CHIP CAPACITOR 3300P(K)	CNA205	8B-CDA-626-010		CONN ASSY, 2P DOOR
C423	87-010-992-080		C-CAP,S 0.047-25 B	CNA402	8B-CDA-625-010		CONN ASSY, 6P CD-ME
C424	87-A11-606-080		C-CAP,S 0.22-25 K B	CNA802	8B-CDA-631-010		CONN ASSY, 4P TA-ME
C425	87-018-129-080		CAP, TC U 680P-50 K B	FFC401	8B-CDA-621-010		FF-CABLE, 16P CD-RF
C426	87-A11-608-080		C-CAP,S 0.33-25 K B	FFC403	8B-CDA-622-010		FF-CABLE, 8P CD-FR
C428	87-010-197-080		CAP, CHIP 0.01 DM	J201	87-A60-420-010		JACK, 3.5 ST (MSC)
C429	87-010-186-080		CAP, CHIP 4700P	JW429	87-003-283-080		COIL, 18UH J LAL02<EZ, K>
C430	87-012-156-080		C-CAP,S 220P-50 CH	JW442	87-003-098-080		COIL, 2.2UH K LAL02<EZ, K>
C431	87-010-545-080		CAP, ELECT 0.22-50V	L401	87-003-102-080		COIL, 10UH
C432	87-010-374-080		CAP, ELECT 47-10V	L402	87-003-098-080		COIL, 2.2UH K LAL02<EZ, K>
C433	87-010-401-080		CAP, ELECT 1-50V	L404	87-003-152-080		COIL, 100UH
C434	87-010-184-080		CHIP CAPACITOR 3300P(K)	R840	87-029-124-010		RES, FUSE 2.2-1/4
C435	87-010-197-080		CAP, CHIP 0.01 DM	SFR430	87-024-437-080		SFR, 100K RH063MC
C436	87-010-374-080		CAP, ELECT 47-10V	X401	8Z-CD5-633-010		VIB, CER16.93MHZ FCR16.93M2
C437	87-010-404-080		CAP, ELECT 4.7-50V	FRONT C.B			
C438	87-016-669-080		C-CAP,S 0.1-25 K B	C601	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C439	87-010-178-080		CHIP CAP 1000P	C602	87-010-555-040		CAP, E 100-10 M 5L SRE
C440	87-018-139-080		CAP, TC U 1P-50 CH	C603	87-A10-189-040		CAP, E 220-10 M 5L
C441	87-010-197-080		CAP, CHIP 0.01 DM	C604	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C442	87-018-109-080		CAP, TC U 22P-50 SL	C605	87-018-150-080		CAP, TC U 18P-50 J CH UP050
C445	87-012-368-080		C-CAP,S 0.1-50 F	C606	87-018-111-080		CAP, TC U 27P-50 J SL UP050
C446	87-012-368-080		C-CAP,S 0.1-50 F	C607	87-018-116-080		CAP, TC U 56P-50 J SL UP050
C447	87-012-368-080		C-CAP,S 0.1-50 F	C608	87-018-114-080		CAP, TC U 39P-50 J SL UP050
C448	87-010-315-080		C-CAP,S 27P-50 CH	C609	87-018-149-080		CAP, TC U 15P-50 J CH UP050
C451	87-012-156-080		C-CAP,S 220P-50 CH	C610	87-015-785-080		C-CAP,S 0.1-25 Z F C3216
C455	87-010-247-080		CAP, ELECT 100-50V	C611	87-010-197-010		CAP, CHIP 0.01 DM
C457	87-010-312-080		C-CAP,S 15P-50 CH	C612	87-018-131-080		CAP, TC U 1000P-50 K B UP050
C458	87-010-312-080		C-CAP,S 15P-50 CH	C613	87-A10-826-080		C-CAP,S 1-10 K B
C459	87-010-263-080		CAP, ELECT 100-10V	C614	87-010-494-040		CAP, E 1-50 M 5L SRE
C460	87-015-819-080		CAPACITOR, 0.01	C615	87-010-493-040		CAP, E 0.47-50 M 5L SRE
C461	87-010-197-080		CAP, CHIP 0.01 DM	C616	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C462	87-010-248-080		CAP, ELECT 220-10V	C617	87-010-495-040		CAP, E 2.2-50 M 5L SRE
C463	87-A11-132-080		CAP, TC U 0.01-50 KB	C618	87-010-197-010		CAP, S 0.01-25<U>
C465	87-010-404-080		CAP, ELECT 4.7-50V	C619	87-010-197-010		CAP, S 0.01-25
C466	87-012-368-080		C-CAP,S 0.1-50 F	C625	87-010-197-010		CAP, CHIP 0.01 DM
C467	87-010-263-080		CAP, ELECT 100-10V	C626	87-010-197-010		CAP, CHIP 0.01 DM
C469	87-012-154-080		C-CAP,S 150P-50 CH	C627	87-010-197-010		CAP, CHIP 0.01 DM
C470	87-018-131-080		CAP, TC U 1000P-50 KB UP050<EZ, K>	CN601	87-099-757-010		CONN, 16P H 9604
C471	87-018-209-080		CAP, TC U 0.1-50 ZF	CN602	87-A60-079-010		CONN, 08P H 9604S-08F
C472	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z	CNA603	8B-CHA-610-010		CONN ASSY, 4P TU-FR
C473	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z	FFC601	8B-CDA-620-010		FF-CABLE, 16P FR-MAIN
C474	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z	L601	87-003-102-080		COIL, 10UH J LAL02
C475	87-A11-132-080		CAP, TC U 0.01-50 K B	L602	87-003-102-080		COIL, 10UH J LAL02
C476	87-010-236-080		CAP, E 1000-10 SME	LCD601	8B-CHA-620-010		LCD, A1W4239-32PIN
C477	87-010-197-080		CAP, CHIP 0.01 DM	LED601	8A-CDA-646-010		LED, 6224-10GD GRN<U>
C478	87-010-263-080		CAP, ELECT 100-10V	LED602	8A-CDA-645-010		LED, 6224-10ID RED
C479	87-010-197-080		CAP, CHIP 0.01 DM	LED603	8A-CDA-645-010		LED, 6224-10ID RED
C480	87-010-221-080		CAP, ELECT 470-10V	S601	87-A92-170-080		SW, TACT EVQPAD05R
C481	87-010-405-080		CAP, ELECT 10-50V	S602	87-A92-170-080		SW, TACT EVQPAD05R
C482	87-010-405-080		CAP, ELECT 10-50V	S603	87-A92-170-080		SW, TACT EVQPAD05R
C489	87-012-368-080		C-CAP,S 0.1-50 F	S604	87-A92-170-080		SW, TACT EVQPAD05R
C490	87-012-368-080		C-CAP,S 0.1-50 F	S605	87-A92-170-080		SW, TACT EVQPAD05R
C491	87-A11-132-080		CAP, TC U 0.01-50KB	S606	87-A92-170-080		SW, TACT EVQPAD05R
C492	87-010-221-080		CAP, ELECT 470-10V	S607	87-A92-170-080		SW, TACT EVQPAD05R
C493	87-010-180-080		C-CER 1500P<U>	S608	87-A92-170-080		SW, TACT EVQPAD05R<U>
C501	87-012-368-080		C-CAP,S 0.1-50 F	S609	87-A91-704-080		SW, TACT EVQ 214 05R<EZ, K>
C502	87-010-322-080		C-CAP,S 100P-50 CH	S611	87-A92-170-080		SW, TACT EVQPAD05R
C503	87-018-119-080		CAP, TC U 100P-50 KB	S612	87-A92-170-080		SW, TACT EVQPAD05R
C504	87-010-322-080		C-CAP,S 100P-50 CH	S613	87-A92-170-080		SW, TACT EVQPAD05R
C505	87-010-322-080		C-CAP,S 100P-50 CH	S614	87-A92-170-080		SW, TACT EVQPAD05R
C506	87-010-322-080		C-CAP,S 100P-50 CH				
C510	87-016-669-080		C-CAP,S 0.1-25 K B				
C831	87-010-198-080		CAP, CHIP 0.022				

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S615	87-A92-170-080		SW, TACT EVQPAD05R	D3	87-A40-616-070		VARI-CAP, SVC384 (S/T)
X601	87-030-273-010		VIB, XTAL 32.768KHZ DT-38 5P	D4	87-A40-916-040		C-VARI-CAP, HVC202A
X602	87-030-376-080		VIB, CER 5.760MHZ CSA MG200	D5	87-A40-916-040		C-VARI-CAP, HVC202A
				L2	87-A50-560-010		COIL, FM BPF (ACD)
				L3	8A-CH4-670-010		BAR-ANT, MW 2B-ACH (COI) <U>
TUNER C.B				L3	8A-CH4-671-010		BAR-ANT, MW/LW 3B-ACH (COI) <EZ, K>
C1	87-010-312-080		C-CAP, S 15P-50 J CH GRM	L4	87-A50-420-010		COIL, MW OSC (SYN)
C2	87-010-316-080		C-CAP, S 33P-50 CH	L5	87-A50-566-010		COIL, FM RF EX (ACH)
C3	87-010-312-080		C-CAP, S 15P-50 J CH GRM	L6	87-A50-567-010		COIL, FM OSC (ACH)
C5	87-012-360-080		C-CAP, S 1-10 Z F CM/CB<EZ, K>	L7	87-A91-308-010		FLTR, PCFAZH- 450T (TOK)
C6	87-010-313-080		C-CAP, S 18P-50 J CH GRM<U>	L8	87-005-849-080		COIL, 10UH K CECS
C7	87-012-140-080		C-CAP, S 470P-50 J CH<U>	L51	87-A50-421-010		COIL, LW OSC (SYN) <EZ, K>
C7	87-014-049-080		CAP, PP 470P-100 J PL<EZ, K>	TC1	87-011-254-080		TRIMMER, CER 20P 4.0X4.5 ECR
C8	87-012-349-080		C-CAP, S 1000P-50 J CH GRM	TC51	87-A91-659-010		TRIMMER, 50P 4.0X4.5 ECRL<EZ, K>
C10	87-010-197-080		CAP, CHIP 0.01 DM	X1	87-A70-061-010		VIB, XTAL 4.500MHZ CSA-309
C11	87-010-197-080		CAP, CHIP 0.01 DM				
C12	87-010-197-080		CAP, CHIP 0.01 DM				
C13	87-010-150-080		C-CAP, S 6P-50 D CH				
C14	87-010-303-080		C-CAP, 330P-50 J CH	C901	87-010-192-080		C-CAP, S 0.022-50 F
C15	87-010-178-080		C-CAP, S 1000P-50 K B C2012	C902	87-010-192-080		C-CAP, S 0.022-50 F
C16	87-010-374-080		CAP, E 47-10 M 11L SME	C903	87-010-192-080		C-CAP, S 0.022-50 F
C17	87-010-198-080		C-CAP, S 0.022-25 K B C2012	C904	87-010-192-080		C-CAP, S 0.022-50 F
C18	87-015-835-080		C-CAP, 0.047-50 K B	CNA901	8B-CDA-627-010		CONN ASSY, 3P PWR
C19	87-010-263-080		CAP, E 100-10 M 11L SME	▲ J901	87-A60-178-010		JACK, AC E W/SW<EZ, K>
C20	87-010-404-080		CAP, E 4.7-50V	▲ J901	87-A60-177-010		JACK, AC U W/SW<U>
C23	87-010-197-080		CAP, CHIP 0.01 DM	▲ PR901	87-A91-940-080		PROTECTOR, 2.5A 20P 60V
C24	87-010-303-080		C-CAP, 330P-50 J CH	▲ PT901	8A-CDA-612-010		PT, E 2.5W<EZ, K>
C25	87-016-460-080		C-CAP, S 0.22-16 K B	▲ PT901	8A-CDA-611-010		PT, U 2.5W<U>
C27	87-A11-067-080		C-CAP, S 1-10 K B	SP901	8A-CDA-214-010		SPR-C, BATT
C28	87-016-669-080		C-CAP, S 0.1-25 K B	SP902	8A-CDA-214-010		SPR-C, BATT
C29	87-016-669-080		C-CAP, S 0.1-25 K B				
C30	87-012-365-080		C-CAP, S 0.027-25 K B<U>				
C30	87-010-220-080		C-CAP, S 0.018-25 K B<EZ, K>				
C31	87-012-365-080		C-CAP, S 0.027-25 K B<U>	SP903	8A-CDA-214-010		SPR-C, BATT
C31	87-010-220-080		C-CAP, S 0.018-25 K B<EZ, K>	SP904	8A-CDA-214-010		SPR-C, BATT
C33	87-012-358-080		C-CAP, S 0.47-10 Z F CM/CB				
C34	87-012-358-080		C-CAP, S 0.47-10 Z F CM/CB				
C35	87-010-197-080		CAP, CHIP 0.01 DM				
C36	87-010-263-080		CAP, ELECT 100-10V	M2	S0-M10-A09-700		MOTOR SLED ASSY
C37	87-010-197-080		CAP, CHIP 0.01 DM	PIN3	S2-369-750-000		PLUG, 6P
C38	87-010-263-080		CAP, E 100-10 M 11L SME	SW1	S4-S13-A01-600		SW, LEAF
C39	87-010-404-080		CAP, E 4.7-50 M 11L SME				
C40	87-010-197-080		CAP, CHIP 0.01 DM				
C41	87-010-178-080		C-CAP, S 1000P-50 K B C2012				
C42	87-010-178-080		C-CAP, S 1000P-50 K B C2012				
C43	87-010-178-080		C-CAP, S 1000P-50 K B C2012				
C44	87-010-311-080		C-CAP, S 12P-50 J CH GRM				
C45	87-010-312-080		C-CAP, S 15P-50 J CH GRM				
C46	87-010-197-080		CAP, CHIP 0.01 DM				
C47	87-010-197-080		CAP, CHIP 0.01 DM				
C48	87-010-197-080		CAP, CHIP 0.01 DM				
C49	87-012-140-080		C-CAP, S 470P-50 J CH				
C50	87-010-197-080		CAP, CHIP 0.01 DM				
C51	87-010-316-080		C-CAP, S 33P-50 J CH GRM<EZ, K>				
C52	87-010-197-080		CAP, CHIP 0.01 DM<EZ, K>				
C53	87-010-197-080		CAP, CHIP 0.01 DM<EZ, K>				
C54	87-010-177-080		C-CAP, S 820P-50 J SL<EZ, K>				
C55	87-010-197-080		CAP, CHIP 0.01 DM<EXCEPT U>				
C56	87-010-312-080		C-CAP, S 15P-50 J CH GRM<EZ, K>				
C71	87-010-197-080		CAP, CHIP 0.01 DM				
C72	87-010-263-080		CAP, ELECT 100-10V				
C73	87-010-197-080		CAP, CHIP 0.01 DM				
C75	87-010-197-080		CAP, CHIP 0.01 DM				
C80	87-010-197-080		CAP, CHIP 0.01 DM				
C92	87-010-197-080		CAP, CHIP 0.01 DM				
C93	87-010-197-080		CAP, CHIP 0.01 DM				
CF1	87-A91-094-010		FLTR, CDA10.7 MG80A				
CF2	87-008-261-010		FILTER, SFE10.7MA5-A				
CN2	87-099-854-010		CONN, 6P V S2M-6W				
CN3	87-A60-110-010		CONN, 4P V S2M-4W				

## ○チップ抵抗部品コード／CHIP RESISTOR PART CODE

### チップ抵抗部品コードの成り立ち

## Chip Resistor Part Coding



## チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)			抵抗コード Resistor Code : A	
				外形／Form	L	W		
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

## TRANSISTOR ILLUSTRATION



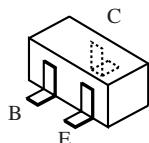
2SA1979O/Y  
2SC2001K



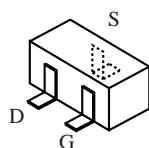
2SA1296GR  
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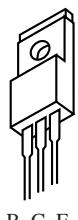
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2SC1740SR  
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DTC114TS  
DTC124XS



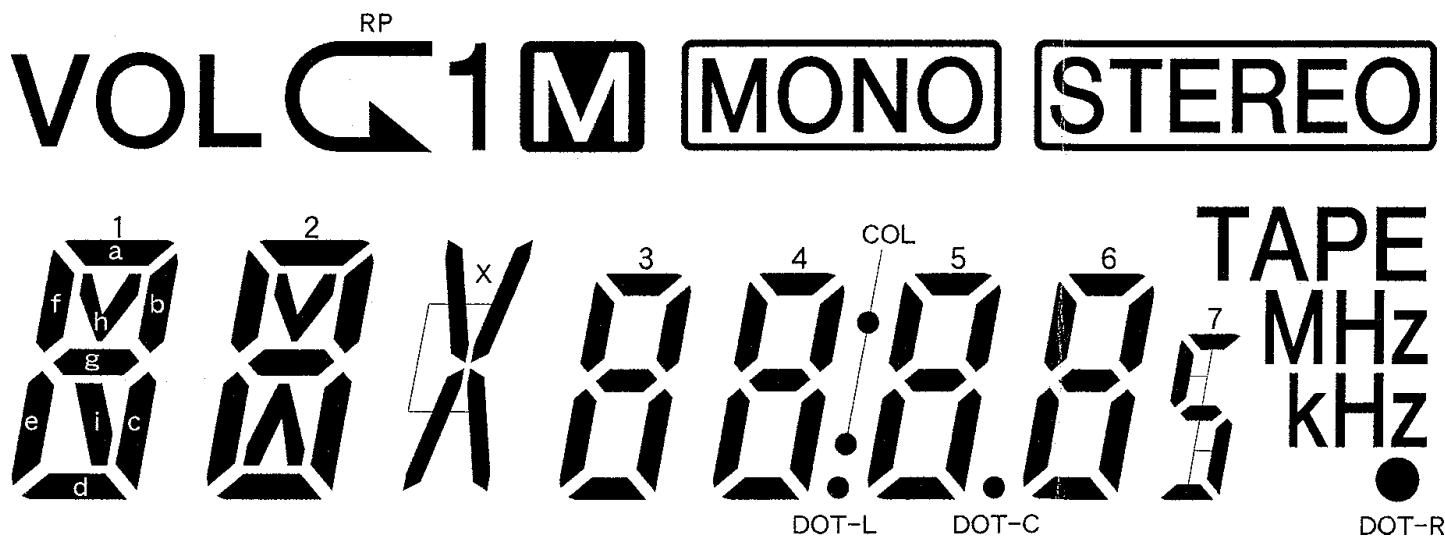
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DTA114YKA  
DTC114TK  
DTC114TKA  
DTC114YKA  
DTC124XK



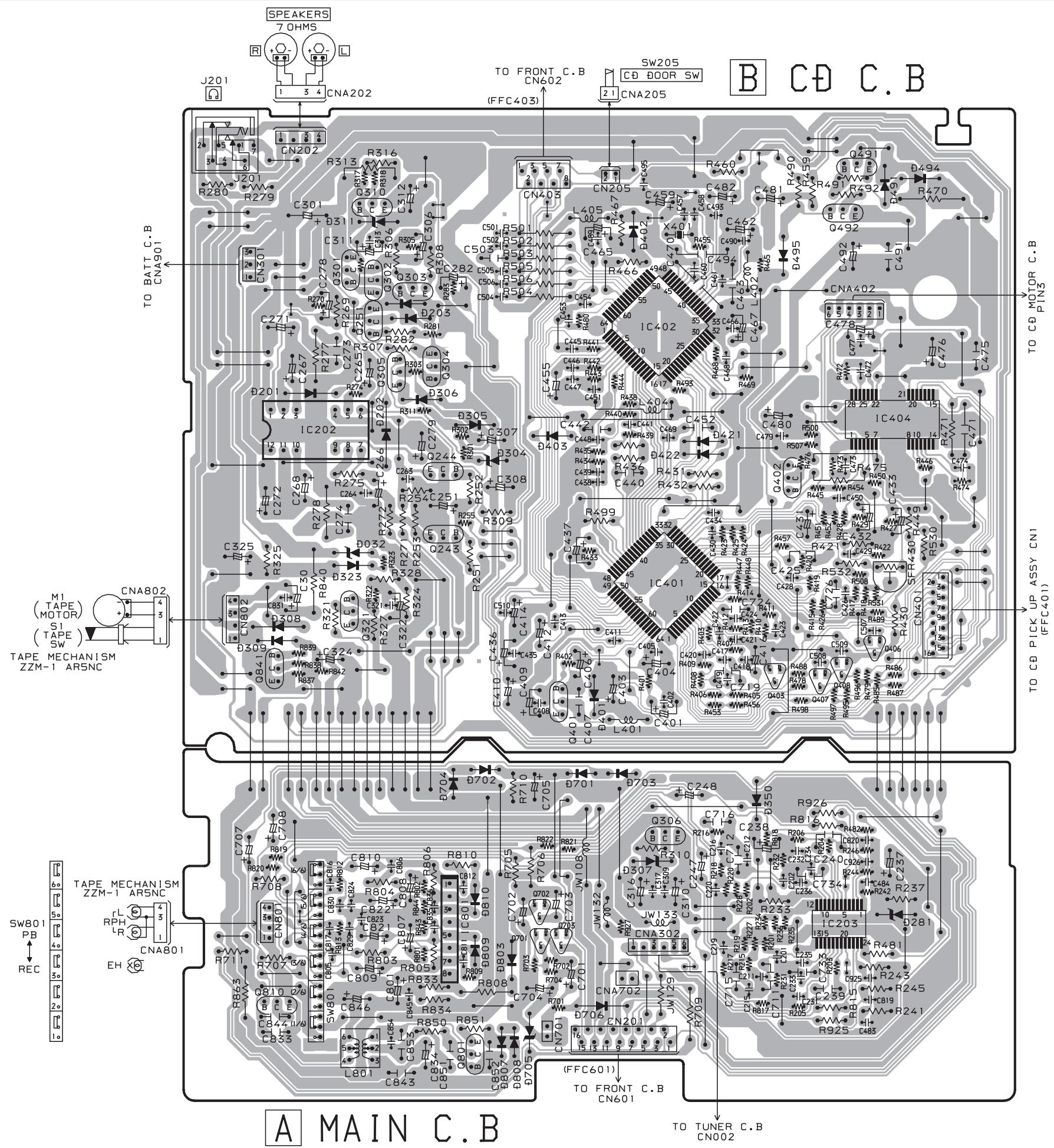
2SK302GR



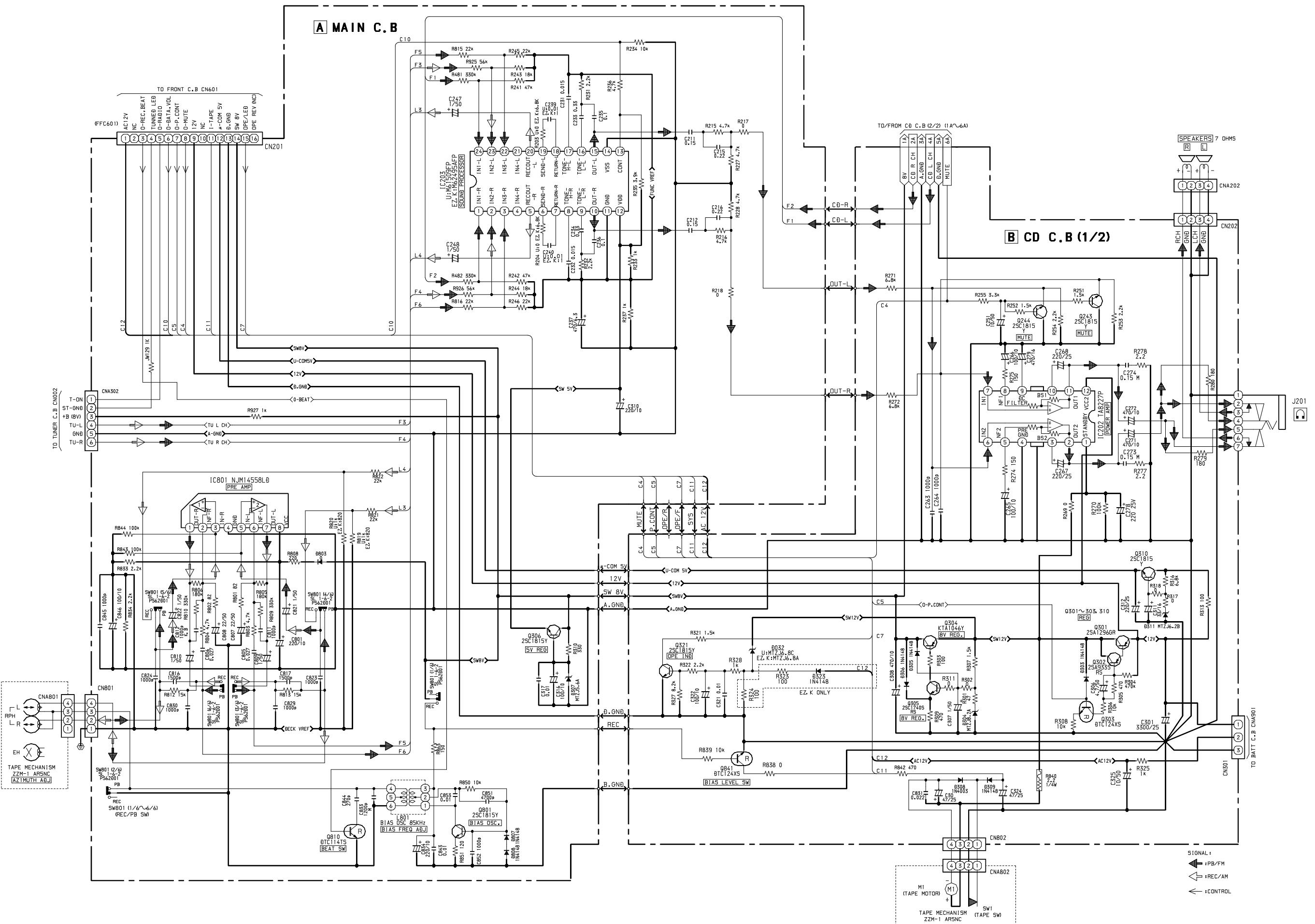
KTA1046Y



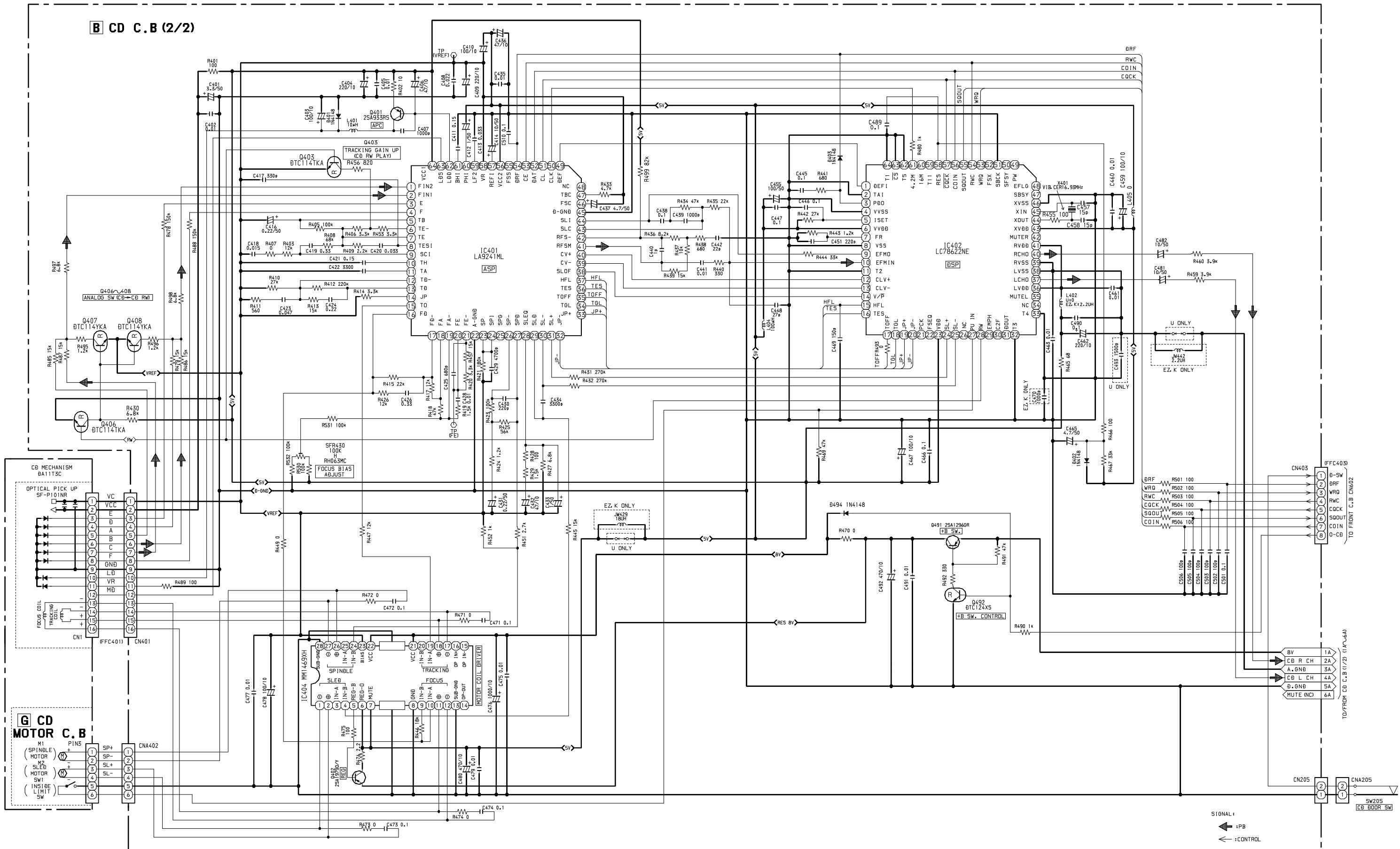
NO	COM1	COM2	COM3
1	2b	2c	2d
2	1b	1c	1d
3	1a	1f	1e
4	1h	1g	1i
5	—	—	VOL
6	2a	2f	2e
7	2h	2g	2i
8	3f	3e	RP
9	3a	3g	3d
10	3b	3c	1
11	4f	4e	M
12	4a	4g	4d
13	4b	4c	X
14	col	DOT-L	MONO
15	5f	5e	DOT-R
16	5a	5g	5d
17	5b	5c	DOT-C
18	6f	6e	STEREO
19	6a	6g	6d
20	6b	6c	7
21	TAPE	MHz	KHz
22	COM1	—	—
23	—	COM2	—
24	—	—	COM3



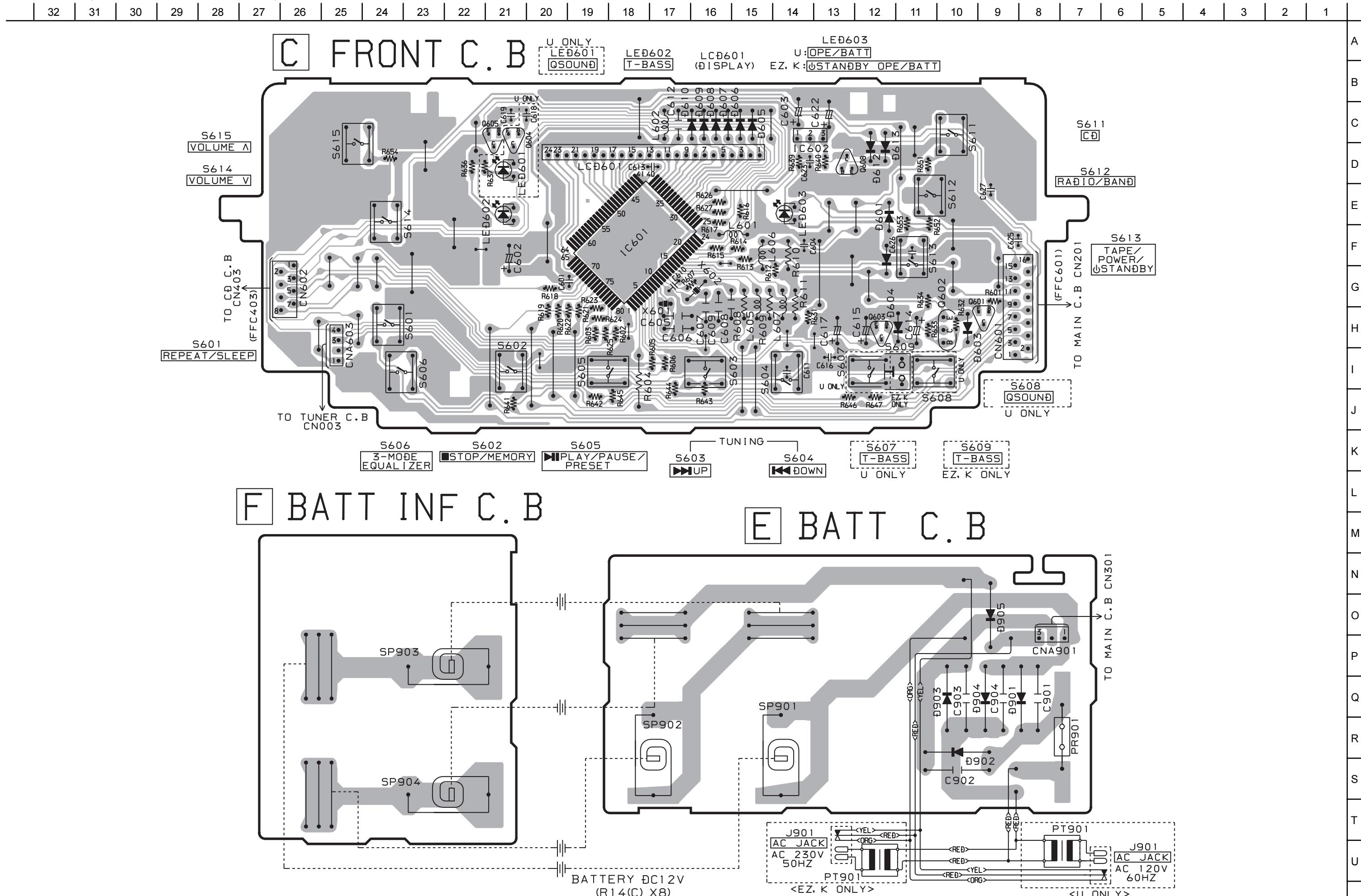
## SCHEMATIC DIAGRAM – 1 (MAIN / CD : 1 / 2)



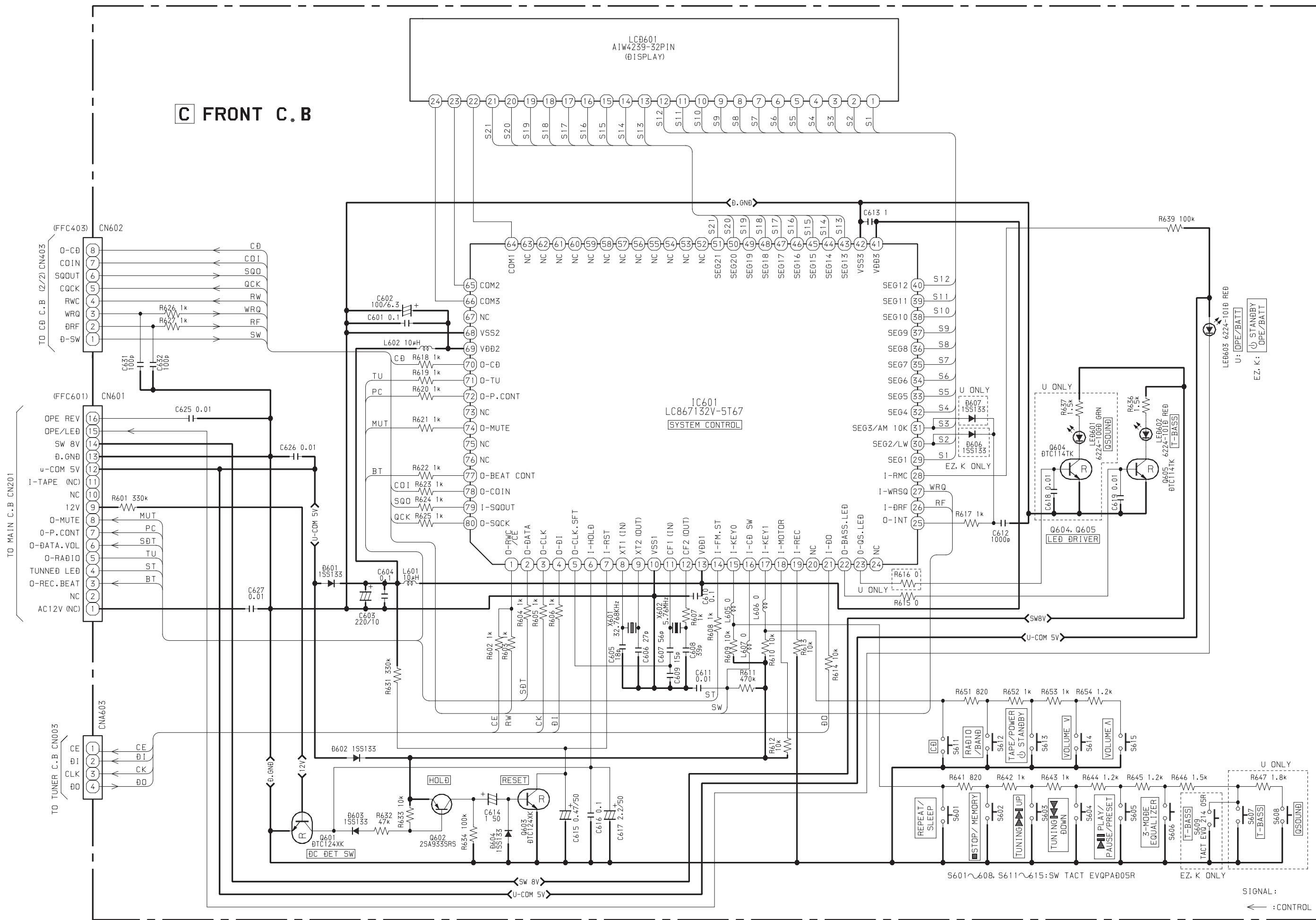
## SCHEMATIC DIAGRAM – 2 (CD : 2 / 2 / CD MOTOR)



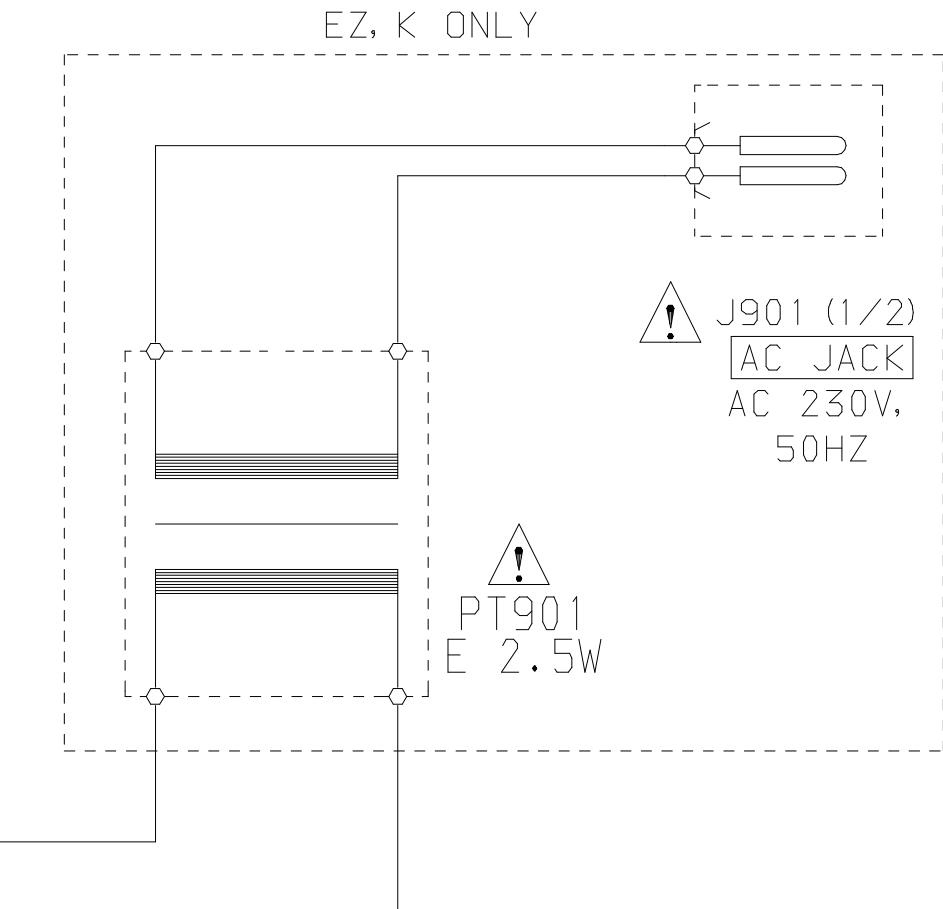
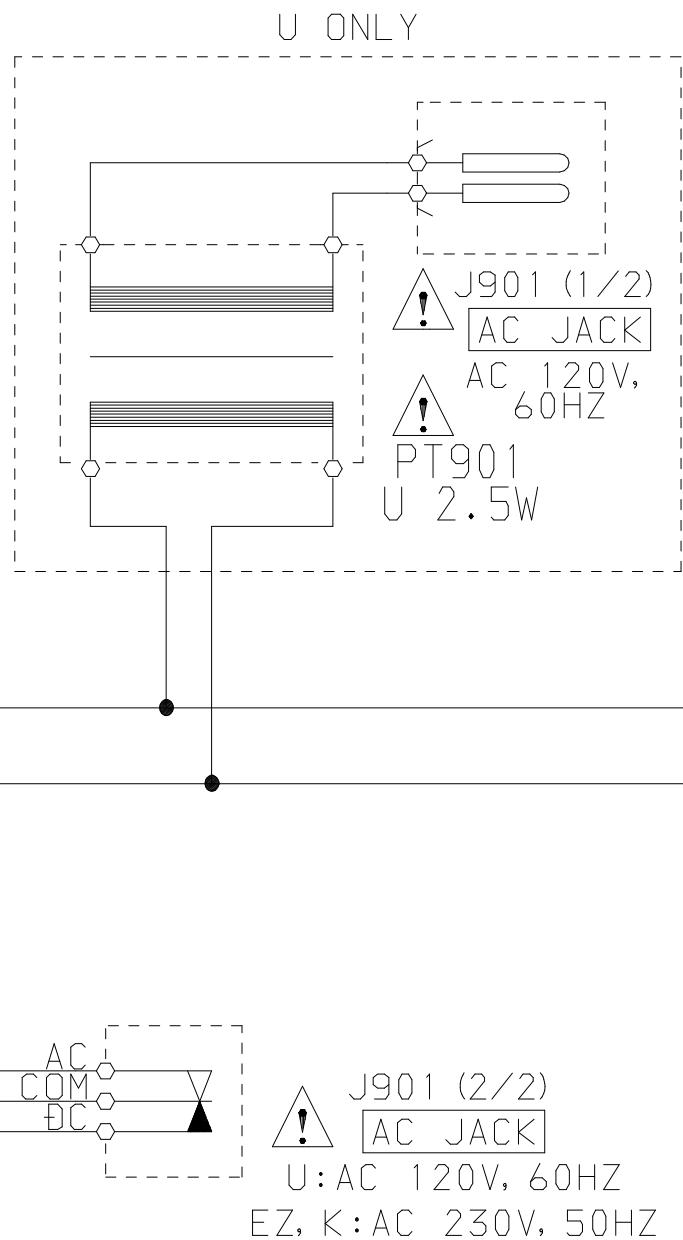
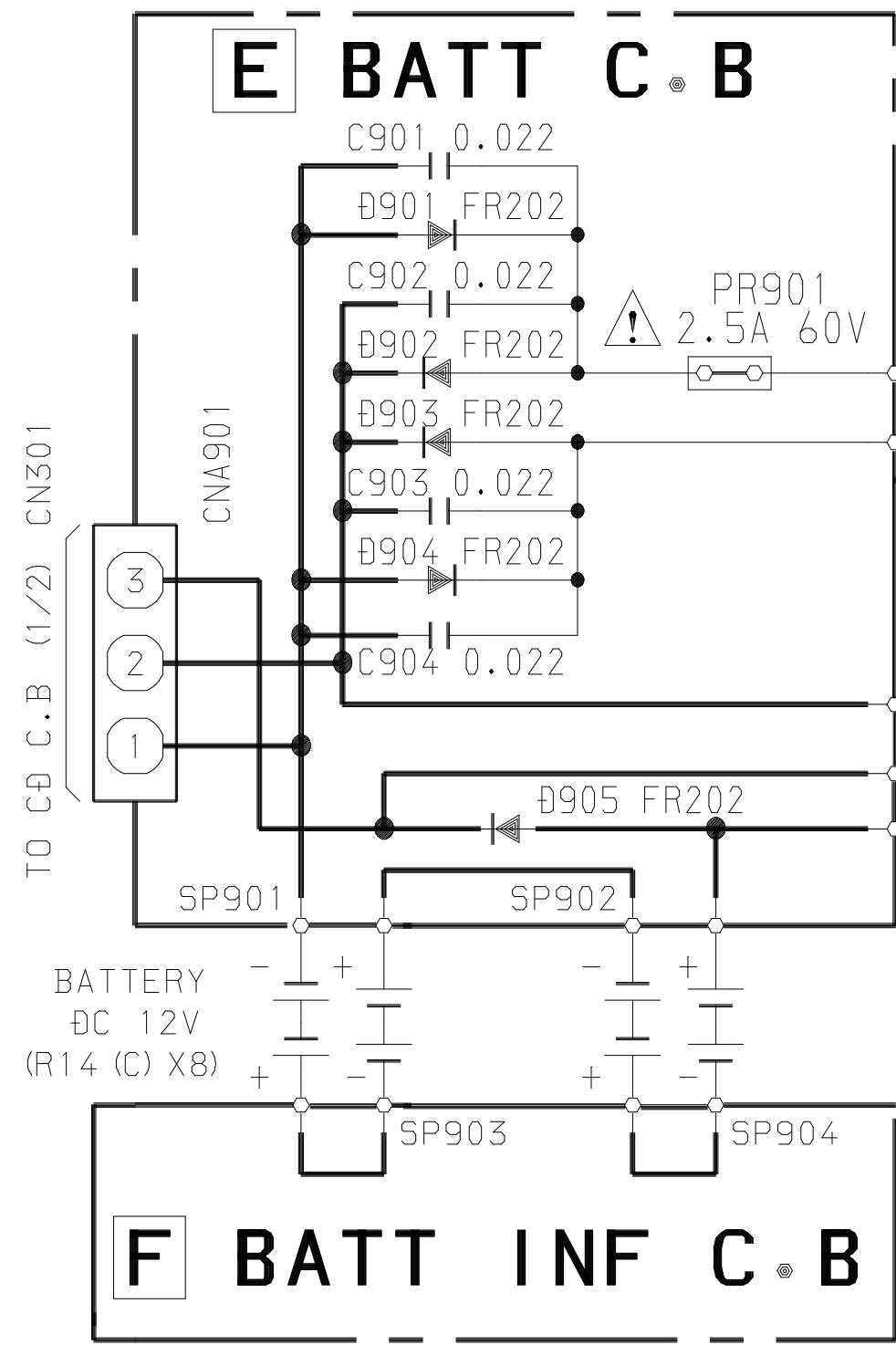
WIRING-2 (FRONT / BATT / BATT INF)



# SCHEMATIC DIAGRAM – 3 (FRONT)

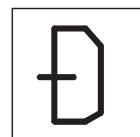


#### SCHEMATIC DIAGRAM – 4 (BATT / BATT INF)

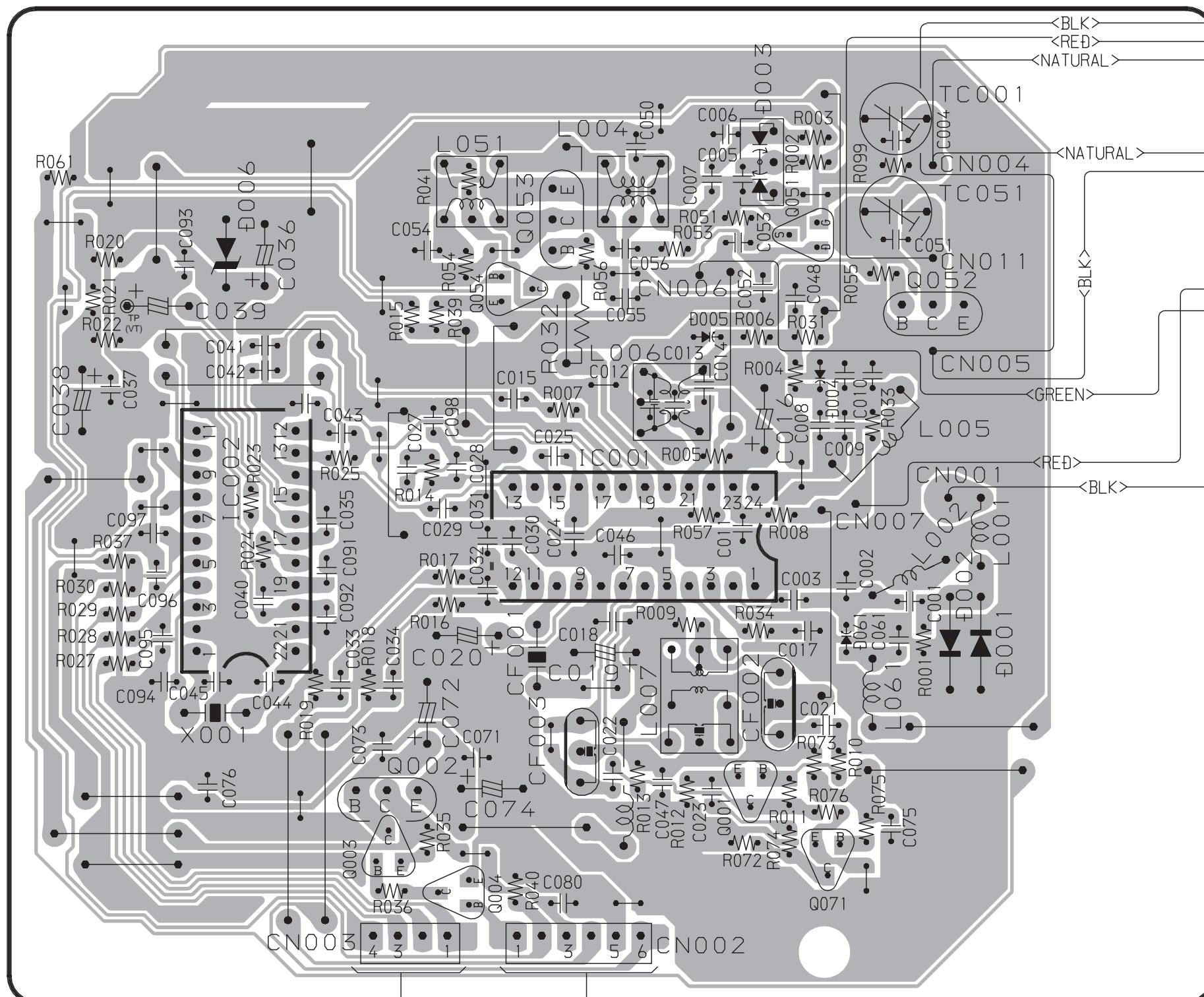


## WIRING – 3 (TUNER)

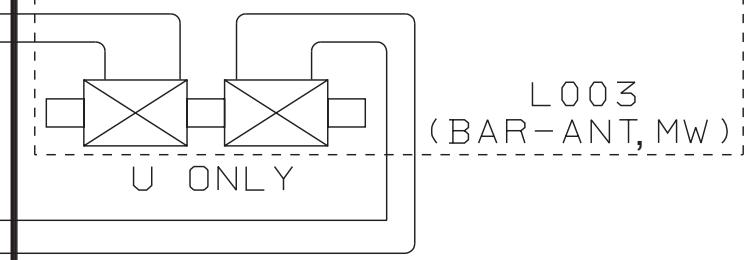
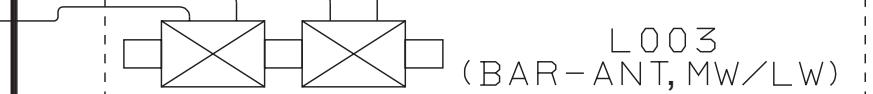
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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## TUNER C. B

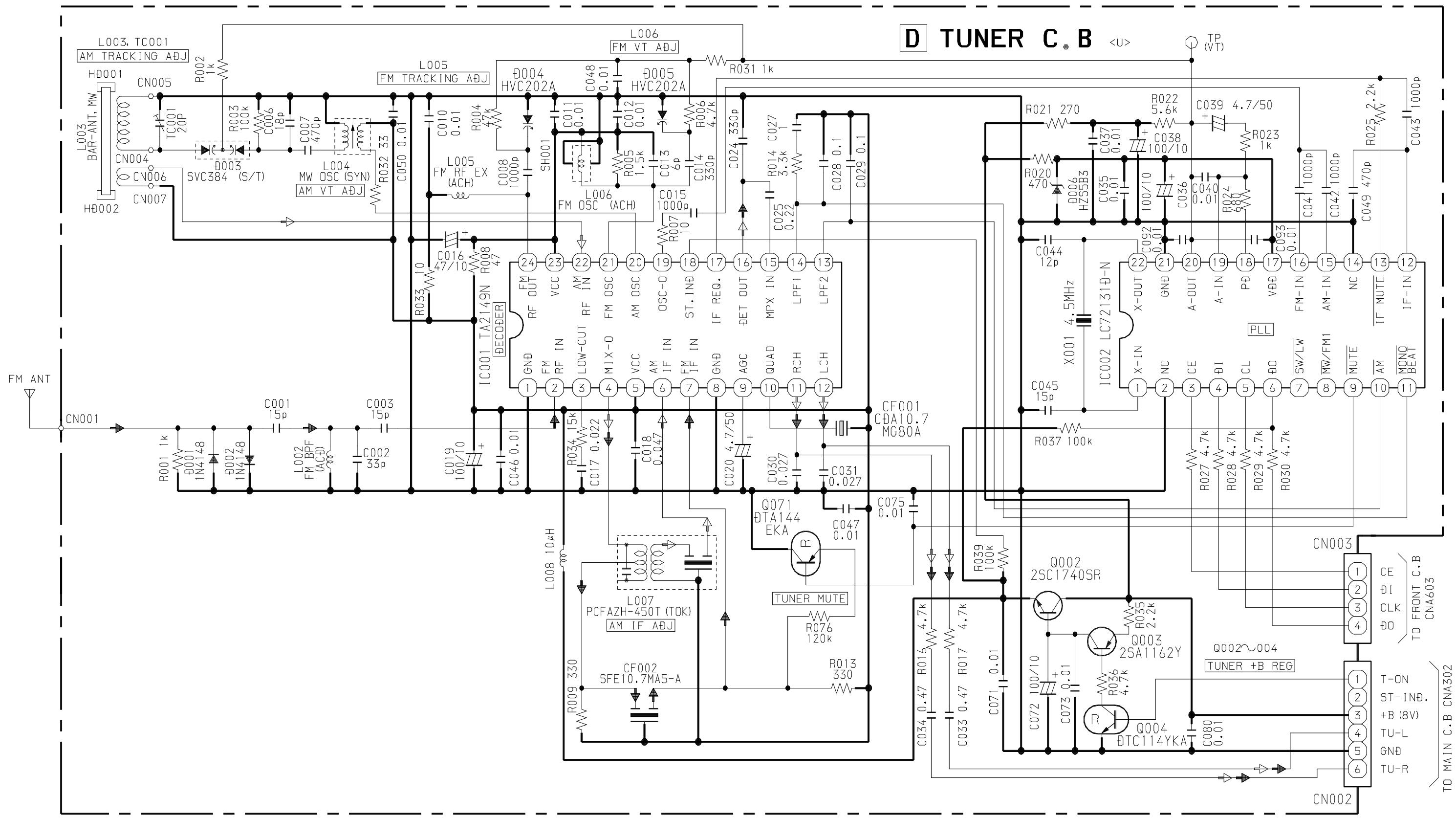


EZ, K ONLY



(FM ANT)

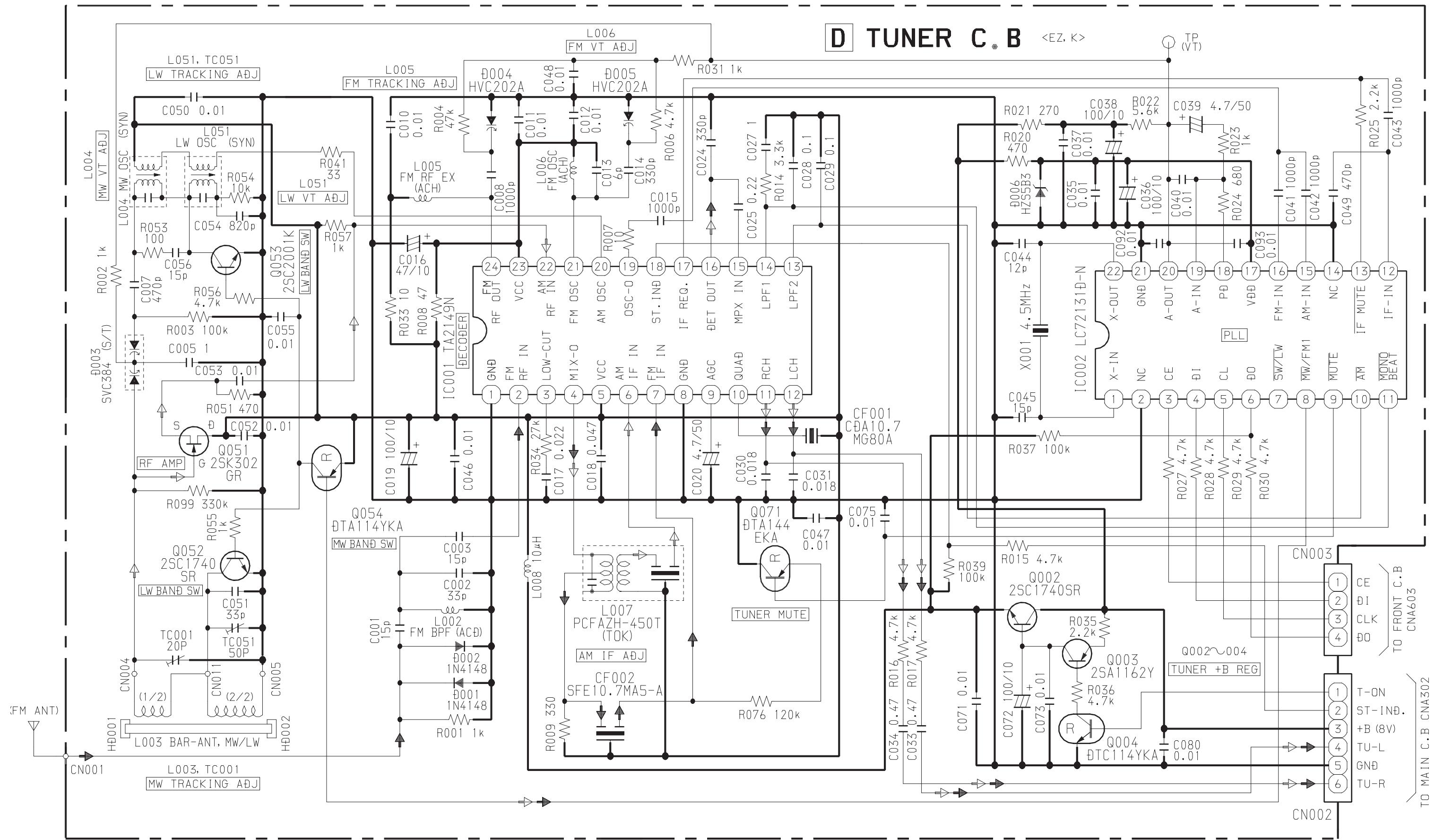
TO FRONT C. B. CNA603  
TO MAIN C. B. CNA302



SIGNAL:

FM

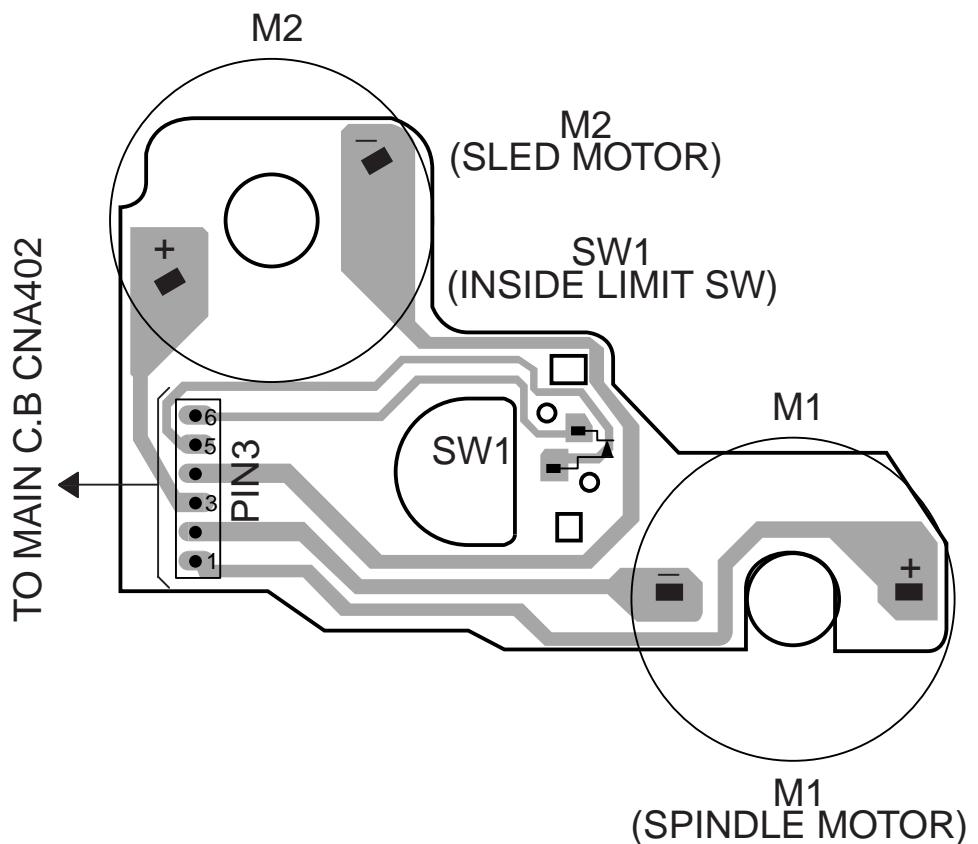
AM



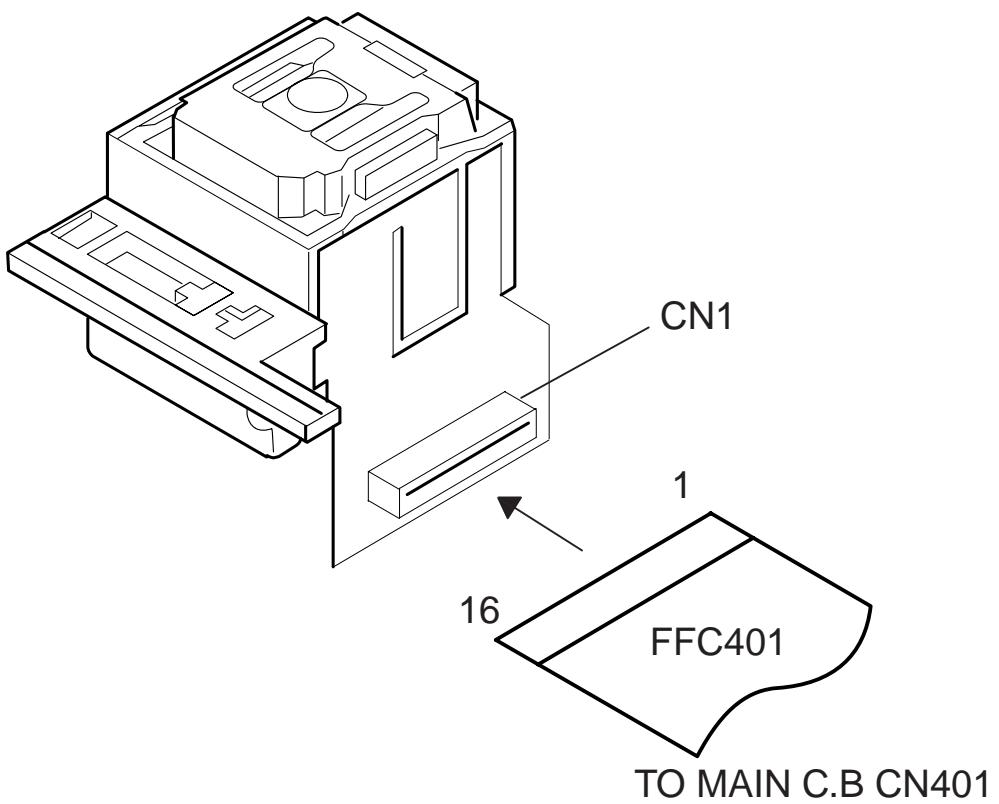
WIRING – 4 (CD MOTOR)

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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**G CD MOTOR C.B**

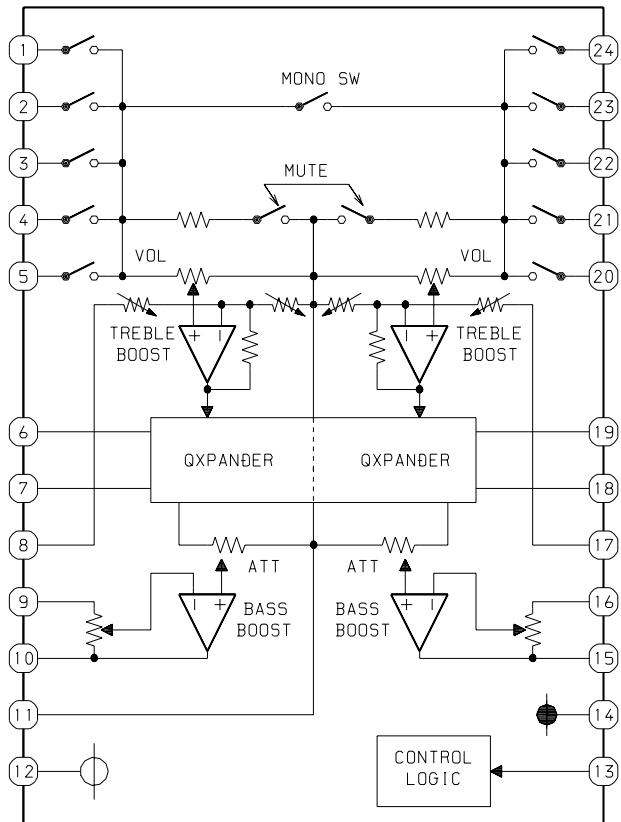


PICK UP ASSY  
SF-P101NR

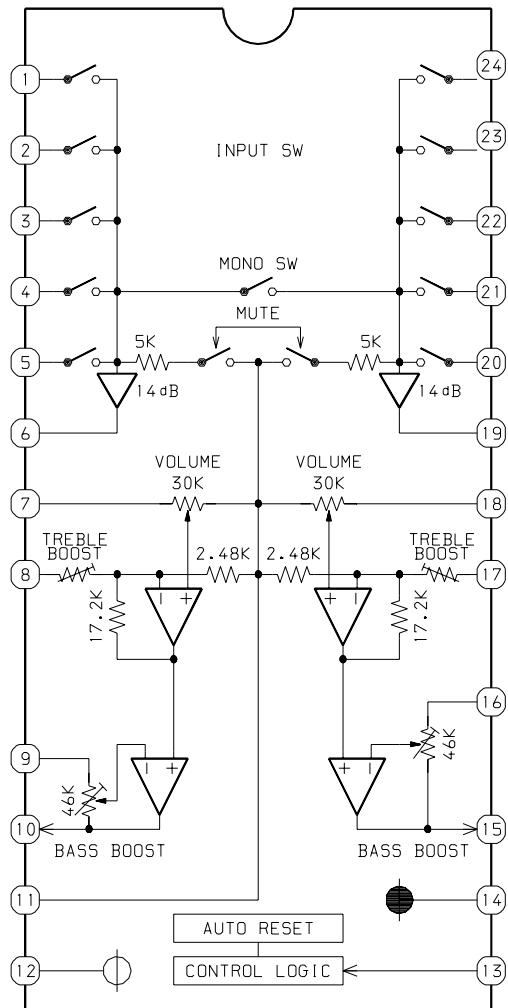


## IC BLOCK DIAGRAM

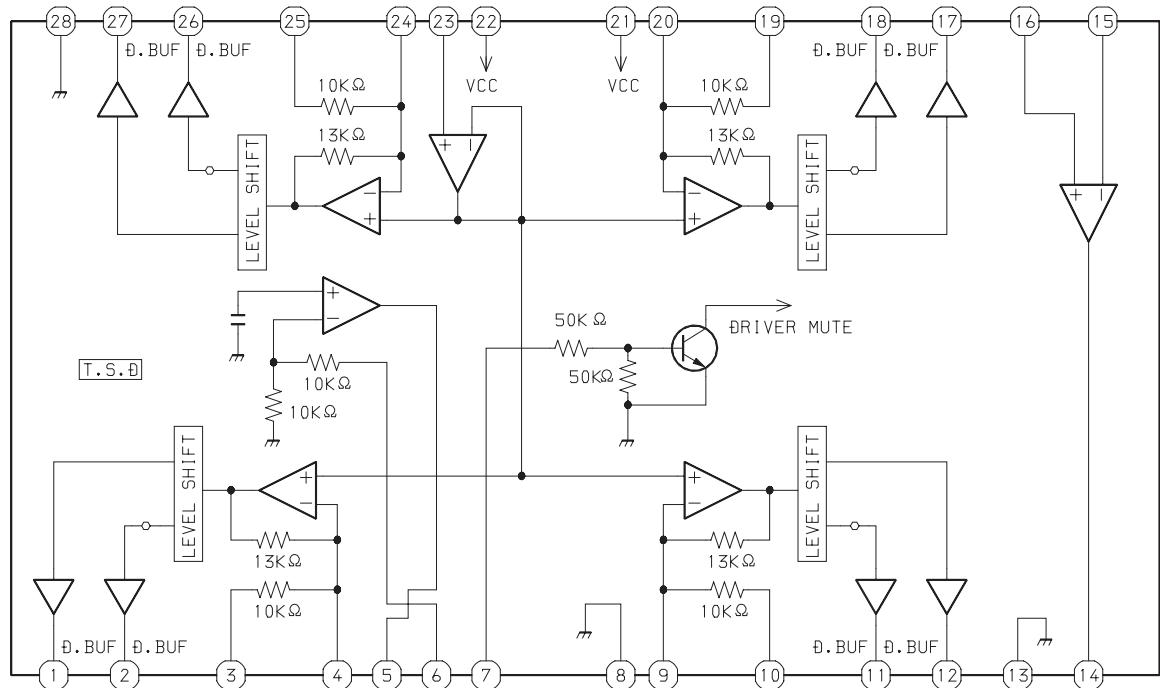
IC, M61509FP



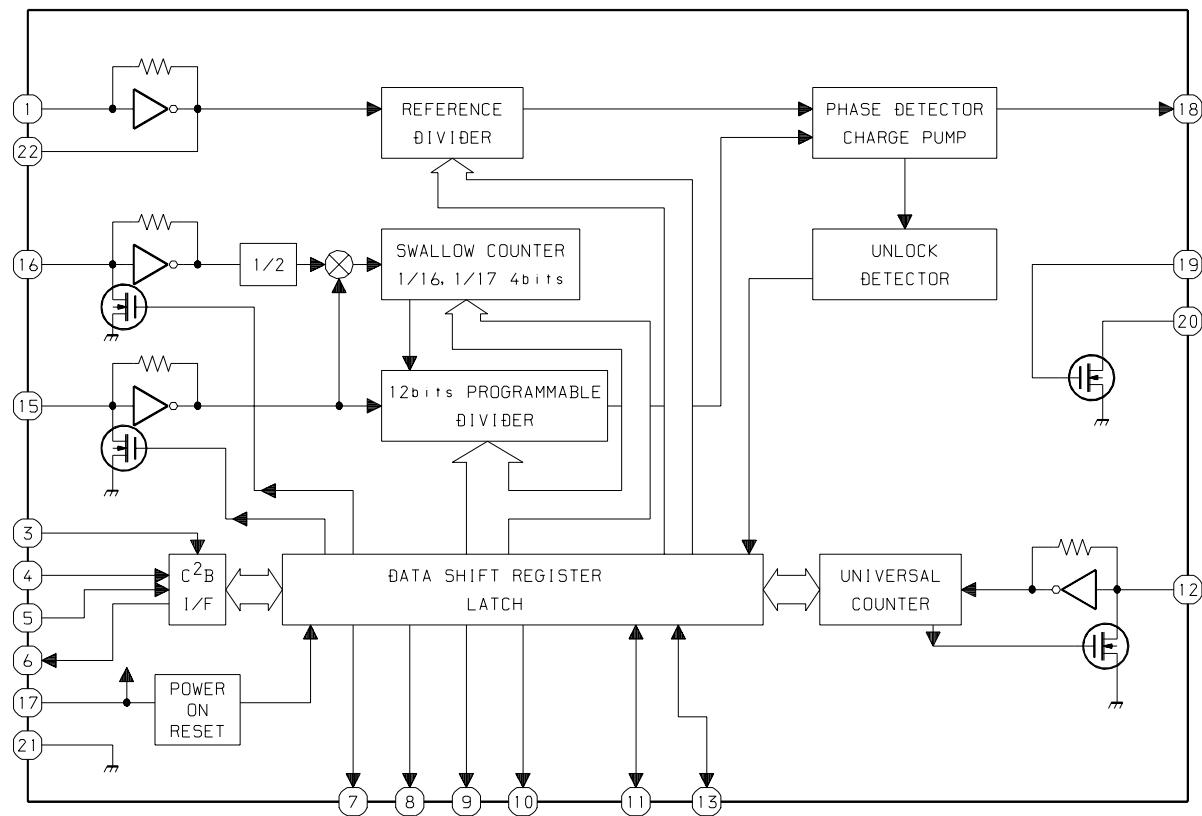
IC, M62495Afp



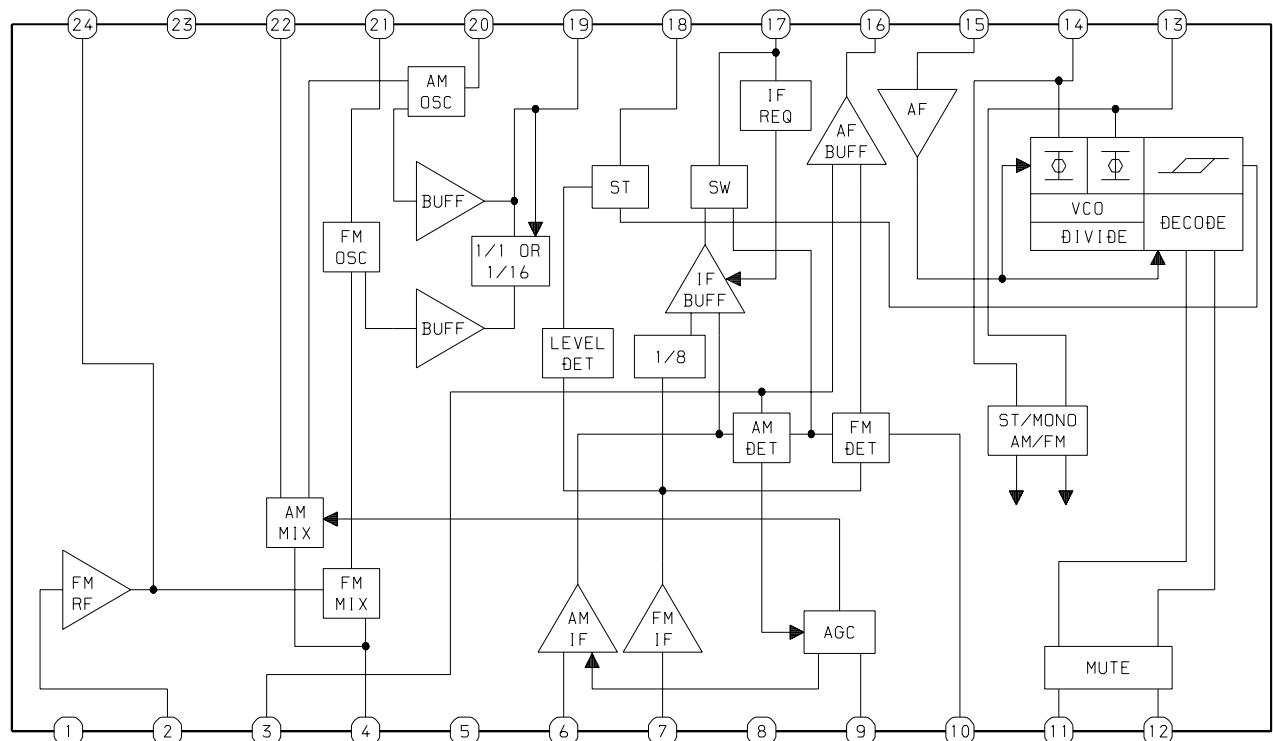
IC, MM1469XH



IC, LC72131D-N



IC, TA2149N



# IC DESCRIPTION

IC, LC78622NE

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal (DEF) input.
2	TAI	I	Test input. A pull-down resistor is incorporated. (For PLL) (Connected to 0V)
3	PDO	O	Phase comparison output to control the external VCO. (For PLL)
4	VVSS	—	Ground of the built-in VCO. Normally, 0V. (For PLL)
5	ISET	I	For the connection of a resistor which adjusts the PDO output current. (For PLL)
6	VVDD	—	Power supply of the built-in VCO. (For PLL)
7	FR	I	Adjusts the VCO frequency range. (For PLL)
8	VSS	—	Ground of digital circuits. Normally, 0V.
9	EFMO	O	Slice level control EFM signal output.
10	EFMIN	I	Slice level control EFM signal input.
11	T2	I	Test input. A pull-down resistor is incorporated. (Connected to 0V)
12	CLV+	O	Disc motor control tri-state output.
13	CLV-		
14	V/P	O	Output to monitor the automatic switching between the rough servo control and phase servo control. "H": Rough servo, "L": Phase servo.
15	HFL	I	Track detection signal input. Schmitt trigger input.
16	TES	I	Track error signal input. Schmitt trigger input.
17	TOFF	O	Tracking OFF output.
18	TGL	O	Tracking gain switching output. "L" raises the gain.
19	JP+	O	Track jump control tri-state output.
20	JP-		
21	PCK	O	Monitors clock signal for EFM data playback. 4.3218MHz when the phase is locked. (Not used)
22	FSEQ	O	Sync signal detection output. Goes "H" when the sync signal detected from the EFM signal matches the sync signal generated internally. (Not used)
23	VDD	—	Power supply of digital circuits.
24	SL+	O	Serial data command sled signal output terminal from microprocessor.
25	SL-		
26	NC	—	Not connected.
27	PU IN	I	CD pickup inside limit switch.
28	RW	O	Read / Write signal.
29	EMPH	O	De-emphasis monitor. "H": when playing a de-emphasis disc. (Not used)
30	C2F	O	C2 flag output. (Not used)
31	DOUT	O	Output a digital OUT signal. (EIAJ format) (Not used)
32	T3	I	Test input. (Connected to 0V).
33	T4		
34	NC	—	Not connected.
35	MUTEL	O	Left channel 1-bit D/A converter muting output. (Not used)

Pin No.	Pin Name	I/O	Description
36	LVDD	—	Left channel 1-bit D/A converter power supply.
37	LCHO	O	Left channel 1-bit D/A converter output.
38	LVSS	—	Left channel 1-bit D/A converter ground. Normally, 0V.
39	RVSS	—	Right channel 1-bit D/A converter ground. Normally, 0V.
40	RCHO	O	Right channel 1-bit D/A converter output.
41	RVDD	—	Right channel 1-bit D/A converter power supply.
42	MUTER	O	Right channel 1-bit D/A converter muting output. (Not used)
43	XVDD	—	Power supply of crystal oscillator.
44	XOUT	O	For the connection of a 16.93MHz crystal oscillator.
45	XIN	I	
46	XVSS	—	Ground of crystal oscillator. Normally, 0V.
47	SBSY	O	Subcode block sync signal output. (Not used)
48	EFLG	O	C1, C2, single, duplex correction monitor. (Not used)
49	PW	O	Output of subcodes P, Q, R, S, T, U and W. (Not used)
50	SFSY	O	Subcode frame sync signal output. Falls when the subcode is set to the standby state. (Not used)
51	SBCK	I	Subcode read-out clock input. Schmitt trigger input. ("L" is applied when not used.) (Connected to 0V)
52	FSX	O	7.35kHz sync signal output obtained by dividing the oscillator frequency. (Not used)
53	WRQ	O	Subcode Q standby output.
54	RWC	I	Read/write control input. Schmitt trigger input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the microprocessor.
57	<u>CQCK</u>	I	Command input retrieval clock or subcode retrieval clock input from SQOUT. Schmitt trigger input.
58	RES	I	LC78622NE reset input.
59	T11	O	Test output. Set to open (normally, "L" output.) (Not used)
60	16M	O	16.9344MHz output. (Not used)
61	4.2M	O	4.2336MHz output.
62	T5	I	Test input. A pull-down resistor is incorporated. (Connected to 0V)
63	<u>CS</u>	I	Chip select input. (Connected to 0V)
64	T1	I	Test input with no pull-down resistor. (Connected to 0V)

Pin No.	Pin Name	I/O	Description
1	FIN2	O	For the connection of the pickup photodiode. Addition to the FIN1 pin creates an RF signal and subtraction from it create an EF signal.
2	FIN1	O	For the connection of the pickup photodiode.
3	E	O	For the connection of the pickup photodiode. Subtraction from the F pin creates a TE signal.
4	F	O	For the connection of the pickup photodiode.
5	TB	I	Inputs the DC components in the TE signal.
6	TE-	O	For the connection of a resistor which sets the gain of the TE signal between this pin and the TE pin.
7	TE	O	TE signal output.
8	TESI	I	TES (track error sense) comparator input. The TE signal is passed through a BPF.
9	SCI	I	Shock detection input.
10	TH	I	Sets the time constant for the tracking gain.
11	TA	O	TA amp output.
12	TD-	I	Composes the tracking phase compensation constant between the TD and VR pins.
13	TD	O	Sets the tracking phase compensation.
14	JP	I	Sets the amplitude of the tracking jump signal (kick pulses).
15	TO	O	Tracking control signal output.
16	FD	O	Focusing control signal output.
17	FD-	I	Composes the focusing phase compensation constant between the FD and FA pins.
18	FA	O	Composes the focusing phase compensation constant between the FD- and FA- pins.
19	FA-	I	Composes the focusing phase compensation constant between the FA and FE pins.
20	FE	O	FE signal output.
21	FE-	I	For the connection of a resistor whichs sets the gain of the FE signal between this pin and the TE pin.
22	A-GND	O	Ground of analog signals.
23	SP	O	Single-ended output of the signals input to the CV+ and CV- pins.
24	SPI	I	Spindle amp input.
25	SPG	I	For the connection of a resistor which sets the gain in the spindle 12cm mode. (Not used)
	26	SP-	I For the connection of the spindle phase compensation constant with the SPD pin.
	27	SPD	O Spindle control signal output.
28	SLEQ	I	For the connection of sled phase compensation constant.
29	SLD	O	Sled control signal output.
30	SL-	I	Sled feed signal input from the microprocessor.
31	SL+		
32	JP-	I	Tracking signal input from the DSP.
33	JP+		
34	TGL	I	Tracking gain control signal input from the DSP. Low gain when TGL is "H".
35	TOFF	I	Tracking off control signal input from the DSP. Off when TOFF is "H".
36	TES	O	Outputs the TES signal to the DSP.

Pin No.	Pin Name	I/O	Description
37	HFL	O	The HFL (high frequency level) signal is used to judge whether the main beam is positioned on the pit or on the mirror.
38	SLOF	I	Sled servo off control input.
39	CV-	I	CLV error signal input from the DSP.
40	CV+		
41	RFSM	O	RF output.
42	RFS-	O	Sets the RF gain and the EFM signal's 3T compensation constant together with the RFSM pin.
43	SLC	O	The SLC (slice level control) signal is output to control the DSP's data slice level of the RF waveform.
44	SLI	I	Input to control the DSP's data slice level.
45	DGND	—	Ground of digital signals.
46	FSC	O	Output for the focus search smoothing capacitor.
47	TBC	I	The TBC (tracking balance control) signal sets the EF balance variation range.
48	NC	—	Not connected.
49	DEF	O	Disc defect detection output.
50	CLK	I	Reference clock input. 4.23MHz is input from the DSP.
51	CL	I	Microprocessor command clock input.
52	DAT	I	Microprocessor command data input.
53	CE	I	Microprocessor chip enable input.
54	DRF	O	DRF (detect RF) is an output to detect the RF level.
55	FSS	I	The FSS (focus search select) signal switches the focus search modes (+/-search / +search with respect to the reference voltage). (Not used)
56	VCC2	—	VCC of servo and digital circuits.
57	REFI	—	For the connection of bypass capacitor for the reference voltage.
58	VR	O	Reference voltage output.
59	LF2	I	Sets the time constant for disc defect detection.
60	PHI	I	For the connection of a capacitor to hold the RF signal peak.
61	BHI	I	For the connection of a capacitor to hold the RF signal bottom.
62	LDD	O	APC circuit output.
63	LDS	I	APC circuit input.
64	VCC1	—	VCC of RF signal circuits.

Pin No.	Pin Name	I/O	Description
1	O-RWC/CE	O	CD read/write control output and TU CE.
2	O-DATA	O	Data output to sound processor IC M62495AFP<EZ,K>, IC M61509FP<U>.
3	O-CLK	O	Clock output to sound processor IC M62495AFP<EZ,K>, IC M61509FP<U>.
4	O-DI	O	Data input to tuner PLL.
5	O-CLK.SFT	O	Clock shift output for microprocessor.
6	I-HOLD	I	Hold status detection.
7	I-RST	I	Microcomputer reset.
8	XT1 (IN)	I	Connected to an external 32.768kHz crystal oscillator.
9	XT2 (OUT)	O	Connected to an external 32.768kHz crystal oscillator.
10	VSS1	—	GND.
11	CF1 (IN)	I	Connected to an external 5.76MHz ceramic filter.
12	CF2 (OUT)	O	Connected to an external 5.76MHz ceramic filter.
13	VDD1	—	Microprocessor power supply (+5V).
14	I-FM.ST	I	FM STEREO status input.
15	I-KEY0	I	KEY AD input.
16	I-CD SW	I	CD door switch status detection input.
17	I-KEY1	I	KEY AD input.
18	I-MOTOR	I	DECK MECHA MOTOR status input.
19	I-REC	I	REC status input. (Connected to GND through a resistor).
20	NC	—	Not connected.
21	I-DO	I	Data input from tuner PLL.
22	O-BASS.LED	O	BASS LED ON/OFF control output. (Not used)
23	O-QS.LED	O	Q-Sound LED ON/OFF control output.
24	NC	—	Not connected.
25	O-INT	O	INT DIODE MATRIX detection output.
26	I-DRF	I	CD RF level detection input.
27	I-WRSQ	I	CD sub-code Q standby input.
28	I-RMC	I	Remote control input.
29	SEG1	O	LCD segment output.
30	SEG2/LW	O	LCD segment output / Intial settings output (LW) <EZ,K only>.
31	SEG3/AM 10K	O	LCD segment output / Intial settings output (AM 10K) <U only>.
32 ~ 40	SEG4 ~ SEG12	O	LCD segment output.
41	VDD3	—	Power supply for microcomputer (+5V).
42	VSS3	—	GND.
43 ~ 51	SEG13 ~ SEG21	O	LCD segment output.
52 ~ 63	NC	—	Not connected.
64 ~ 66	COM1 ~ COM3	O	LCD common output.
67	NC	—	Not connected.
68	VSS2	—	GND.
69	VDD2	—	Power supply for microcomputer (+5V).
70	O-CD	O	CD power control output.

Pin No.	Pin Name	I/O	Description
71	O-TU	O	TUNER power control output.
72	O-P.CONT	O	Power supply control output.
73	NC	—	Not connected.
74	O-MUTE	O	Main mute output.
75, 76	NC	—	Not connected.
77	O-BEAT CONT	O	BEAT switch over output.
78	O-COIN	O	CD command output.
79	I-SQOUT	I	CD sub-code Q input.
80	O-SQCK	O	CLK for CD commands/sub-codes.

# VOLTAGE CHART

IC001, TA2149N

PIN NO.	FM	AM
1	0	0
2	0.79	0
3	0	1.01
4	4.65	4.79
5	4.84	4.83
6	4.3	4.16
7	4.84	4.83
8	0	0
9	0.21	0.18
10	4.06	4.34
11	1.19	1.19
12	1.21	1.22
13	3.93	0
14	4.16	0.02
15	0.7	0.7
16	0.94	1.09
17	0.9	1.3
18	4.79	4.74
19	3.1	3.22
20	4.84	4.83
21	4.64	4.76
22	4.84	4.83
23	4.64	4.76
24	4.83	4.83

PIN NO.	FM	AM
15	0	0
16	2.4	2.4
17	4.8	4.8
18	0.8	0.8
19	0.8	0.8
20	5	5
21	0	0
22	2.4	2.4

IC203, M61509FP / M62495AFP

PIN NO.	CD	TAPE	TUNER
1	2.54	2.55	2.56
2,3	2.55	2.55	2.56
4	0.7	0.8	2.56
5	2.54	2.55	2.57
6	2.56	2.56	2.57
7	2.55	2.55	2.57
8	2.55	2.56	2.57
9	2.55	2.55	2.56
10	2.55	2.55	2.57
11	2.56	2.56	2.57
12	5.08	5.09	5.11
13	2.82	2.83	2.83
14	0	0	0
15,16	2.55	2.55	2.56
17	2.55	2.56	2.57
18	2.55	2.55	2.56
19	2.57	2.57	2.58
20	2.54	2.55	2.57
21	0.7	0.58	0.69
22	2.54	2.06	2.56
23	2.55	2.56	2.56
24	2.54	2.55	2.56

IC202, TA8227P

PIN NO.	ACTIVE	STATIC
1	12.31	11.5
2	6.57	6.1
3	12	1.5
4	0	0
5	0.56	0.56
6,7	0	0
8	0.56	0.56
9	6.65	6.41
10	12	1.42
11	6.46	6.2
12	13.1	12.5

IC002, LC72131D-N

PIN NO.	FM	AM
1	2.4	2.4
2	0	0
3	0	0
4	0	0
5	0	0
6	4.8	4.8
7	0	0
8	1.3	1.3
9	4.7	0
10	4.0	0
11	4.8	0
12	0	0
13	0.9	0.9
14	0	0

## IC401, LA9241ML

PIN NO.	ACTIVE	STATIC
1	2.67	2.53
2	2.65	2.53
3	2.67	2.53
4	2.67	2.56
5	2.67	2.53
6	2.66	2.55
7,8	2.67	2.55
9	2.65	2.54
10	2.66	2.52
11	2.67	2.55
12	2.7	2.54
13	2.67	2.55
14	2.7	2.54
15	2.72	2.54
16	2.69	2.54
17	2.67	2.55
18	2.69	2.55
19	2.73	2.54
20	2.69	2.54
21	0	2.54
22	2.67	0
23	2.67	2.53
24	2.65	2.54
25	2.69	2.56
26	2.75	2.56
27	2.75	2.5
28	2.68	2.55
29	2.75	2.55
30	2.45	2.33
31	2.45	2.34
32,33	0	0
34	5.22	5.01
35	0	5.01
36	1.4	0.04
37	0	0.01
38	0	5
39	0	0
40	0.25	0
41	2.45	1.61
42	2.54	2.45
43	2.54	2.41
44	2.63	2.53

PIN NO.	ACTIVE	STATIC
45	0	0
46	2.64	2.54
47	2.65	2.55
48,49	0	0
50	2.54	2.44
51	4.77	4.71
52	4.86	4.71
53	0	0.07
54	5.11	0.03
55	0.16	0.14
56	5.2	5.01
57	2.64	2.54
58	2.64	2.56
59	2.59	0.98
60	2.57	0.99
61	2.3	2.24
62	3.86	4.35
63	0.19	0
64	5.18	5.02

PIN NO.	ACTIVE	STATIC
21	2.7	2.48
22	5.6	0
23	5.6	5.02
24,25	0	0
26	0	5
27	5.6	5
28,29	0	0
30	0	4.95
31	2.8	2.48
32~34	0	0
35	0	5.02
36	5.3	4.77
37	2.15	1.94
38,39	0	0
40	2.15	1.95
41	5.3	4.77
42	0	5
43	5.5	5.02
44	2.3	2.08
45	2.3	2.06
46	2.3	0
47	0.1	0.08
48	0	2.27
49	0.1	0
50	2.77	2.5
51	0	0
52	2.77	2.5
53	0.9	0
54	0	0.07
55	0	0
56	5.16	4.71
57	5	4.71
58	5.5	5
59	0	0
60	2.25	2.02
61	2.66	2.41
62~64	0	0

## IC402, LC78622NE

PIN NO.	ACTIVE	STATIC
1	0	0
2	0	0
3	1.8	0.01
4	0	0
5	2.1	1.85
6	5.6	4.98
7	0.4	0.07
8	0	0
9	2.8	2.52
10	2.7	2.41
11	0	0
12	0.3	0
13	0	0
14	0	5
15	0	0.01
16	1.5	0.04
17	0	5.01
18	5.6	5.01
19,20	0	0

IC404, MM1469XH

PIN NO.	ACTIVE	STATIC
1	4.2	3.61
2	4.2	3.62
3,4	2.95	2.54
5	8.2	7.24
6,7	5.8	5.02
8	0	0
9	2.95	2.55
10	3	2.55
11	4.27	3.61
12	4.01	3.63
13	0	0
14	8.4	7.39
15	1.45	0.78
16	1.45	0.8
17	4.1	3.63
18	4.1	3.62
19	2.9	2.54
20	2.9	2.55
21,22	8.9	7.96
23,24	2.9	2.55
25	2.9	2.54
26	4.5	3.61
27	3.71	3.62
28	0	0

IC601, LC867132V-5T67

PIN NO.	TAPE	TUNER	CD
1	0.01	0.01	0.01
2	0.02	0.01	0.02
3,4	0.01	0.01	0.01
5	0.01	0.01	0.03
6	0.03	0.03	0.03
7	4.01	4.70	4.61
8	1.7	1.74	1.69
9	2.47	2.52	2.46
10	0.01	0.01	0.01
11	2.08	4.41	2.08
12	2.19	4.84	2.19
13	4.74	4.85	4.74
14	0	4.79	0.02
15	4.93	4.95	4.93
16	4.6	4.73	4.71
17	4.93	4.95	4.93
18	0.73	0.73	0.73
19,20	0.61	0.01	0.04
21	0	4.82	0.01
22~24	0.01	0.01	0.01
25	4.74	4.85	4.74
26,27	0.02	0.03	0.37
28	5.17	5.27	5.17
29	0	2.45	2.37
30	0.38	2.45	2.37
31	2.43	2.41	2.37
32	2.43	0.85	2.43
33	2.40	2047	2041
34	0.6	2.47	2.41
35	2.40	2.46	2.41
36	2.43	2.48	2.41
37	0.6	2.48	2.43
38	2.43	2.48	2.43
39	2.43	2.48	2.39
40	2.43	2.41	2.38
41	4.75	4.85	4.75
42	0.01	0.01	0.01
43	2.43	2.46	2.43
44	2.43	2.48	2.43
45	2.43	2.47	2.41
46	2.43	2.45	2.43
47	2.43	2.42	2.44

PIN NO.	TAPE	TUNER	CD
48	2.43	2.45	2.43
49	2.43	2.42	2.43
50	2.43	2.47	2.43
51	2.41	2.47	2.42
52	2.43	2.47	2.43
53,54	0.01	0	0.01
55	0.01	0	4.68
56	0.01	0	0.01
57	4.75	4.78	0.01
58~60	0.01	0	0.01
61	0.05	0.15	0.42
62	0.04	0.1	0.45
63	0.03	0.61	0.34
64	2.41	2.47	2.41
65	2.42	2.44	2.41
66	2.41	2.48	2.41
67	0.01	1.25	0.04
68	0.01	0	0.01
69	4.74	4.84	4.74
70	0.01	0	4.74
71	0.01	4.85	0.01
72	4.73	4.83	4.74
73	4.75	0.15	4.74
74	0.01	0.01	4.67
75~77	0.01	0.01	0.01
78	0.01	0.01	4.74
79	1.15	0.01	0
80	0.01	0.45	4.74

IC801, NJM14558LD

PIN NO.	TAPE	REC
1	3.37	3.38
2	3.37	3.39
3	3.34	3.35
4	0	0
5	3.34	3.35
6	3.37	3.39
7	3.37	3.38
8	6.83	6.82

Q002

PIN	FM	AM
E	4.82	4.9
C	8	8
B	5.52	5.58

Q244

PIN	ACTIVE	STATIC
E	0	0
C	0	0
B	0.12	0.64

Q310

PIN	ACTIVE	STATIC
E	5.55	5.56
C	10.45	10.83
B	6.25	6.26

Q003

PIN	FM	AM
E	5.53	5.59
C	5.52	5.59
B	4.85	4.9

Q301

PIN	ACTIVE	STATIC
E	12.2	12.66
C	11.4	12
B	11.5	11.99

Q321

PIN	ACTIVE	STATIC
E	0	0
C	0.01	0.02
B	0.6	0.7

Q004

PIN	FM	AM
E	0	0
C	4.06	4.12
B	2.98	3.03

Q302

PIN	ACTIVE	STATIC
E	11.5	11.99
C	11.4	12
B	10.9	11.32

Q401

PIN	ACTIVE	STATIC
E	4.46	4.99
C	2.11	1.56
B	3.76	4.35

Q052 &lt;EZ,K&gt;

PIN	FM	AM
E	0.01	0.01
C	0.61	0.62
B	4.82	0

Q303

PIN	ACTIVE	STATIC
E	0	0
C	0	0
B	4.57	4.57

Q402

PIN	ACTIVE	STATIC
E	7.87	7.97
C	5.3	5.15
B	7.17	7.28

Q054 &lt;EZ,K&gt;

PIN	FM	AM
E	4.82	4.81
C	0	4.75
B	4.79	0.03

Q304

PIN	ACTIVE	STATIC
E	11.38	11.97
C	7.94	7.98
B	10.75	11.34

Q403

PIN	ACTIVE	STATIC
E	2.56	2.56
C	2.56	2.56
B	0	0

Q071

PIN	FM	AM
E	0	0
C	0.02	0.01
B	4.42	4.42

Q305

PIN	ACTIVE	STATIC
E	7.23	7.26
C	10.56	11.23
B	7.85	7.87

Q406

PIN	ACTIVE	STATIC
E	0	0
C	4.6	4.6
B	0	0

Q243

PIN	ACTIVE	STATIC
E	0	0
C	0	0
B	0.12	0.64

Q306

PIN	ACTIVE	STATIC
E	5.08	5.09
C	7.94	7.98
B	10.75	5.81

Q407

PIN	ACTIVE	STATIC
E	4.6	4.58
C	2.57	2.55
B	2.56	2.55

Q408

PIN	ACTIVE	STATIC
E	4.6	4.58
C	2.57	0.55
B	2.56	2.55

Q492

PIN	ACTIVE	STATIC
E	0	0
C	0.14	0.14
B	4.41	4.41

Q810

PIN	TAPE	REC
E	3.36	3.38
C	0.05	13.85
B	0.13	0.13

Q491

PIN	ACTIVE	STATIC
E	7.91	7.98
C	7.88	7.97
B	7.15	7.23

Q801

PIN	TAPE	REC
E	0	1.64
C	0	5.9
B	0	2.31

Q841

PIN	TAPE	REC
E	0	0
C	0.72	0.01
B	0	5.73

## ADJUSTMENT < TUNER / DECK / CD >

### < TUNER SECTION >

#### 1. AM IF Adjustment

L007 ..... 450kHz

#### 2. AM(MW) VT Adjustment

Settings : • Test Point : C39  $\oplus$  (VT)  
• Adjustment location : L004

Method : Set to AM 1000kHz(U), MW 999kHz(EZ, K) and adjust L004 so that the test point becomes  $3.75V \pm 0.1V$ (U),  $3.8V \pm 0.1V$ (EZ, K).

#### 3. AM(MW) Tracking Adjustment

L003 (1/2) ..... 600kHz(U)  
L003 (1/2) ..... 603kHz(EZ, K)  
TC001 ..... 1400kHz(U)  
TC001 ..... 1404kHz(EZ, K)

#### 4. FM VT Adjustment

Settings : • Test point : C39  $\oplus$  (VT)  
• Adjustment location : L006

Method : Set to FM 108.0MHz and adjust L006 so that the test point becomes  $6.0V \pm 0.1V$ .

#### 5. FM Tracking Adjustment

L005 ..... 98MHz

#### 6. LW VT Adjustment <EZ, K>

Settings : • Test point : C39  $\oplus$  (VT)  
• Adjustment location : L051

Method : Set to LW 288kHz and adjust L051 so that the test point becomes  $4.5V \pm 0.1V$ .

#### 7. LW Tracking Adjustment <EZ, K>

L003 (2/2) ..... 153kHz  
TC051 ..... 288kHz

### < DECK SECTION >

#### 8. Bias Frequency Adjustment

Settings : • Test tape : TTA-602  
• Test point : L801 pin 1  
• Adjustment location : L801

Method :

L801 .....  $85kHz \pm 2kHz$

#### 9. Tape Speed Adjustment

Settings : • Test tape : TTA-100  
• Test point : PHONES JACK (J201)  
• Adjustment location : SFR of deck motor

Method : Play back the test tape and adjust SFR so that the output frequency is  $3000Hz + 90Hz/-60Hz$ .

#### 10. Azimuth Adjustment

Settings : • Test tape : TTA-320  
• Test point : PHONES JACK (J201)  
• Adjustment location : Azimuth adjustment screw

Method : Play back the test tape and adjust the screw so that the output is maximum.

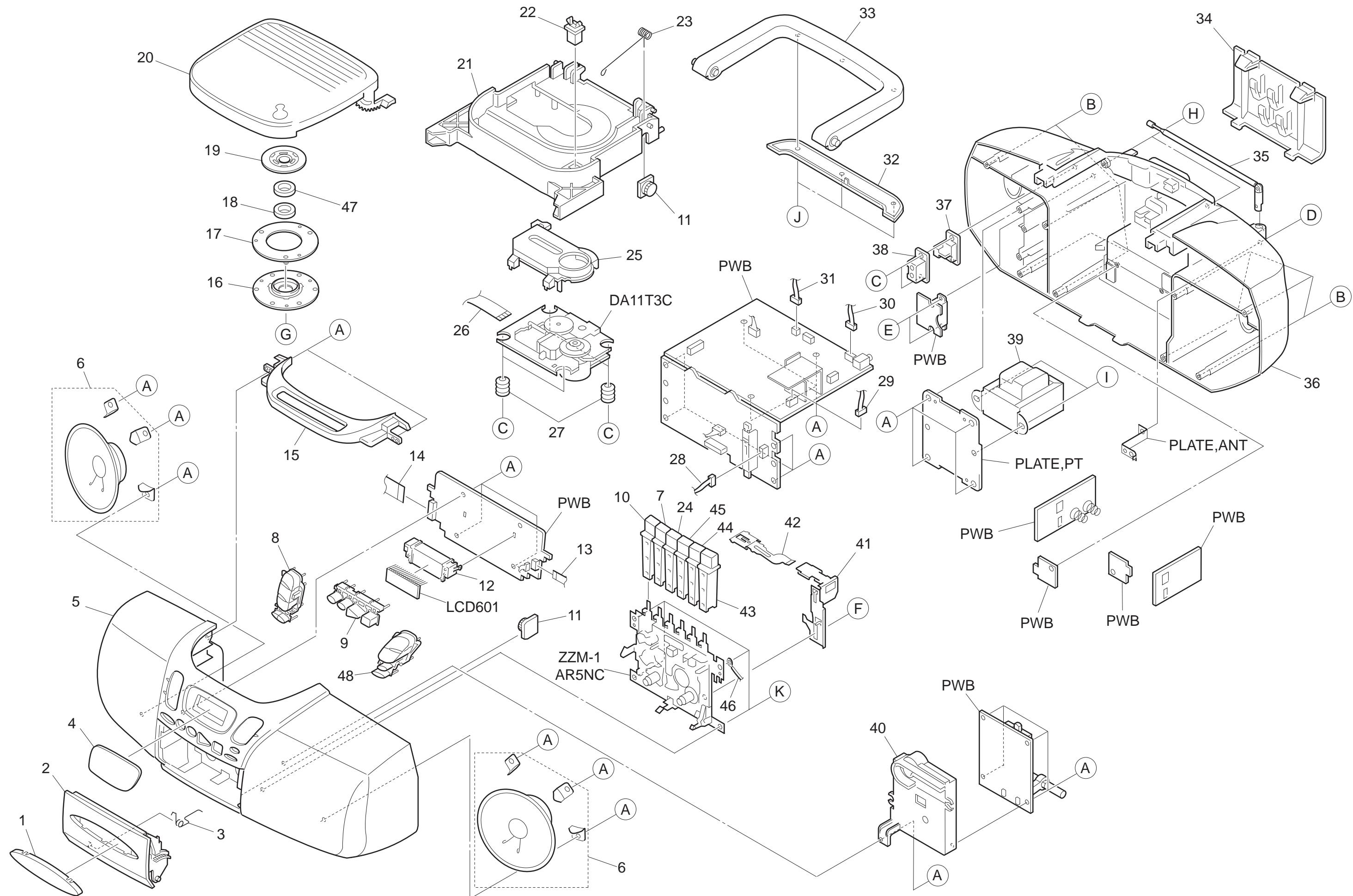
### < CD SECTION >

#### 11. Focus Bias Adjustment

Settings : • Test point : IC401 PIN58 (VREF), IC401 PIN20 (FE)  
• Adjustment location : SFR430  
• Test disc : TCD-782 (YEDS-18) second track

Method : Play back the disc and adjust SFR430 so that the voltage between the test point becomes  $0\sim 10mV$ .

MECHANICAL EXPLODED VIEW 1 / 1



# MECHANICAL PARTS LIST 1 / 1

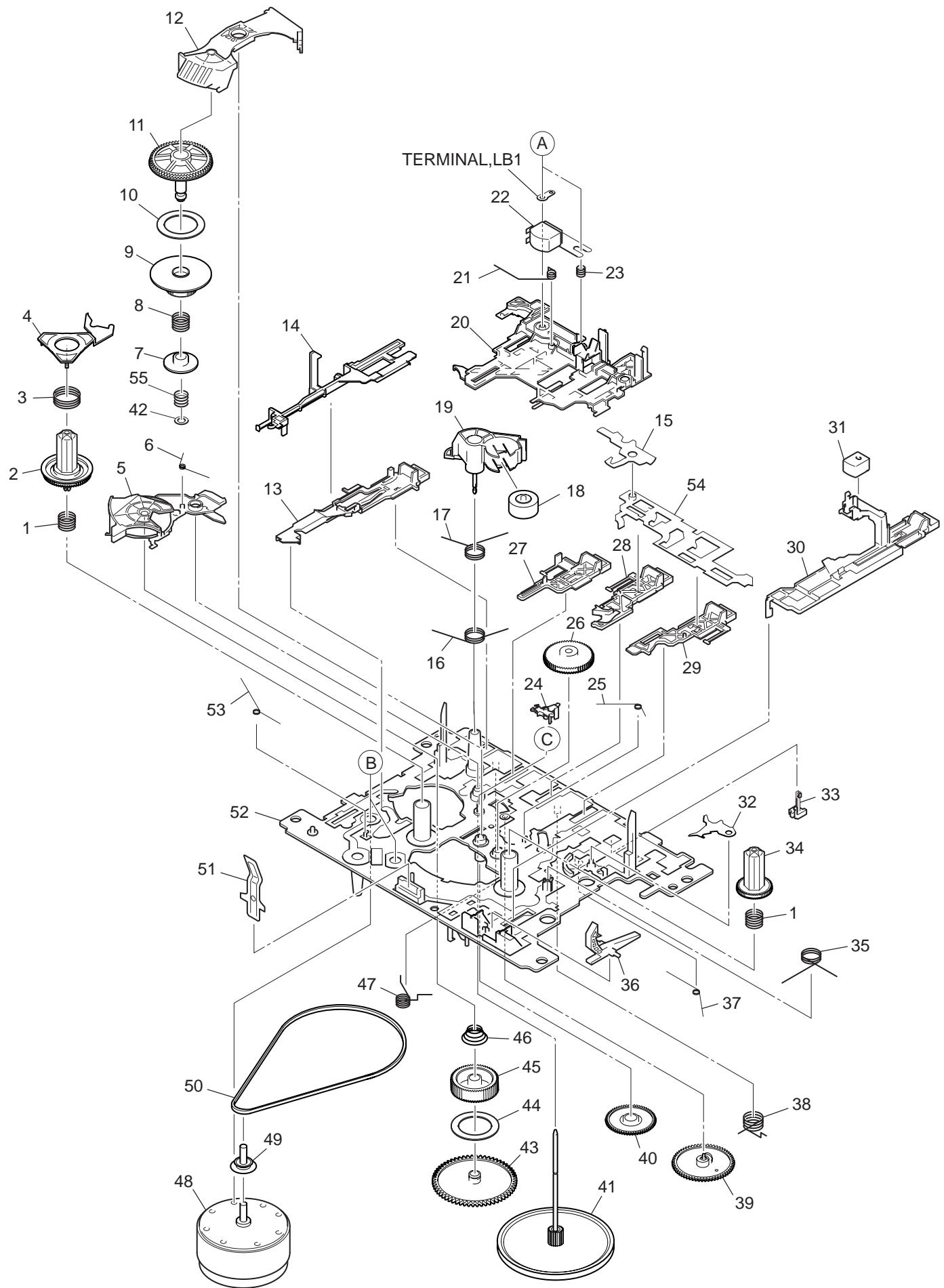
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CDA-113-010		WINDOW, CASS (R) < [R] 24EZ>
1	8B-CDA-009-010		WINDOW, CASS < [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
1	8B-CDA-093-010		WINDOW, CASS (G) < [G] 24EZ>
1	8B-CDA-073-010		WINDOW, CASS (L) < [L] 28U>
2	8B-CDA-003-010		LID, CASS<EXCEPT [W] 27U>
2	8B-CDA-132-010		LID, CASS U (W) < [W] 27U>
3	8A-CDA-212-010		SPR-T, CASS
4	8B-CHA-025-010		WINDOW, DISP EZ G< [G] 24EZ>
4	8B-CHA-012-010		WINDOW, DISP EZ K< [S] 24EZ, [S] 24K>
4	8B-CHA-026-010		WINDOW, DISP EZ R< [R] 24EZ>
4	8B-CHA-015-010		WINDOW, DISP U< [S] 26U, [W] 27U>
4	8B-CDA-138-010		WINDOW, DISP U (L) < [L] 28U>
5	8B-CHA-023-010		CABI ASSY, FRONT EZ G< [G] 24EZ>
5	8B-CHA-005-010		CABI ASSY, FRONT EZ K< [S] 24EZ, [S] 24K>
5	8B-CHA-024-010		CABI ASSY, FRONT EZ R< [R] 24EZ>
5	8B-CHA-014-010		CABI ASSY, FRONT U< [S] 26U>
5	8B-CHA-019-010		CABI ASSY, FRONT U L< [L] 28U>
5	8B-CHA-016-010		CABI ASSY, FRONT U W< [W] 27U>
6	8B-CDA-615-010		SPKR, 10 70HM
7	8B-CDA-020-010		KEY, STOP< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
7	8B-CDA-096-010		KEY, STOP (G) < [G] 24EZ>
7	8B-CDA-077-010		KEY, STOP (L) < [L] 28U>
7	8B-CDA-116-010		KEY, STOP (R) < [R] 24EZ>
8	8B-CDA-015-010		KEY, FUNC A< [S] 26U, [W] 27U, [L] 28U>
8	8B-CDA-017-010		KEY, FUNC C< [S] 24EZ, [S] 24K>
8	8B-CHA-030-010		KEY, FUNC F< [G] 24EZ, [R] 24EZ>
9	8B-CDA-014-010		KEY, CD
10	8B-CDA-019-010		KEY, PAUSE< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
10	8B-CDA-095-010		KEY, PAUSE (G) < [G] 24EZ>
10	8B-CDA-076-010		KEY, PAUSE (L) < [L] 28U>
10	8B-CDA-115-010		KEY, PAUSE (R) < [R] 24EZ>
11	87-063-165-010		OIL-DMPR 150
12	8B-CHA-201-010		HLDL, LCD
13	8B-CDA-622-010		FF-CABLE, 8P CD-FR
14	8B-CDA-620-010		FF-CABLE, 16P FR-MAIN
15	8B-CDL-008-010		PANEL, TOP< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
15	8B-CDA-106-010		PANEL, TOP G< [G] 24EZ>
15	8B-CDA-107-010		PANEL, TOP R< [R] 24EZ>
15	8B-CDA-136-010		PANEL, TOP U (L) < [L] 28U>
16	8Z-CT6-213-110		BASE, CHUCK
17	8Z-CT6-214-110		RING, CHUCK
18	87-036-368-010		MAGNET
19	86-CT9-217-110		HLDL, CHUCK A (S)
20	8B-CDA-006-010		LID, CD< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
20	8B-CDA-104-010		LID, CD G< [G] 24EZ>
20	8B-CDA-105-010		LID, CD R< [R] 24EZ>
20	8B-CDA-135-010		LID, CD U (L) < [L] 28U>
21	8B-CDA-005-010		CHAS, CD<EXCEPT [W] 27U>
21	8B-CDA-063-010		CHAS, CD (W) < [W] 27U>
22	87-036-389-010		SW, PUSH LOCK
23	8A-CDA-211-010		SPR-T, CD
24	8B-CDA-021-010		KEY, FF< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
24	8B-CDA-097-010		KEY, FF (G) < [G] 24EZ>
24	8B-CDA-078-010		KEY, FF (L) < [L] 28U>
24	8B-CDA-117-010		KEY, FF (R) < [R] 24EZ>
25	8Z-CDB-169-010		PANEL, CD SANYO
26	8B-CDA-621-010		FF-CABLE, 16P CD-RF
27	88-CH6-220-010		CUSHION, CD A
28	8B-CDA-630-010		CONN ASSY, 4P RPH
29	8B-CDA-631-010		CONN ASSY, 4P TA-ME
30	8B-CDA-633-010		CONN ASSY, 4P SP
31	8B-CDA-626-010		CONN ASSY, 2P DOOR
32	8B-CDA-010-010		LID, HANDL<EXCEPT [W] 27U>
32	8B-CHA-022-010		LID, HANDL W< [W] 27U>
33	8B-CDA-007-010		HANDL, ARM<EXCEPT [W] 27U>
33	8B-CHA-021-010		HANDL, ARM W< [W] 27U>
34	8B-CDA-004-010		LID, BATT<EXCEPT [W] 27U>
34	8B-CHA-020-010		LID, BATT W< [W] 27U>
35	87-A91-857-010		ANT, ROD 5SEC709
36	8B-CHA-003-010		CABI, REAR<EXCEPT [W] 27U>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	36 8B-CHA-018-010		CABI, REAR U W<[W] 27U>
△	37 87-A60-178-010		JACK, AC E W/SW<EZ, K>
△	37 87-A60-177-010		JACK, AC U W/SW<U>
	38 8Z-CD5-634-010		COVER, AC SOCKET
△	39 8A-CDA-612-010		PT, E 2.5W<EZ, K>
△	39 8A-CDA-611-010		PT, U 2.5W<U>
40	8B-CDA-202-010		HLDL, TU
41	8A-CDA-220-010		PLATE, REC
42	8A-CDA-221-010		SPR-P, REC
43	8B-CDA-024-010		KEY, REC< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
43	8B-CDA-100-010		KEY, REC (G)< [G] 24EZ>
43	8B-CDA-081-010		KEY, REC (L)< [L] 28U>
43	8B-CDA-120-010		KEY, REC (R)< [R] 24EZ>
44	8B-CDA-023-010		KEY, PLAY< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
44	8B-CDA-099-010		KEY, PLAY (G)< [G] 24EZ>
44	8B-CDA-080-010		KEY, PLAY (L)< [L] 28U>
44	8B-CDA-119-010		KEY, PLAY (R)< [R] 24EZ>
45	8B-CDA-022-010		KEY, REW< [S] 24EZ, [S] 24K, [S] 26U, [W] 27U>
45	8B-CDA-098-010		KEY, REW (G)< [G] 24EZ>
45	8B-CDA-079-010		KEY, REW (L)< [L] 28U>
45	8B-CDA-118-010		KEY, REW (R)< [R] 24EZ>
46	87-064-185-010		HLDL, WIRE
47	86-CT9-222-010		PLATE, MAGNET
48	8B-CDA-016-010		KEY, FUNC B
A	87-721-096-410		QT2+3-10 GLD
B	87-751-104-410		VT2+3-30
C	87-751-076-410		SCREW 2.6-12
D	87-254-097-410		U+3-12 CR
E	8A-CK4-223-010		S-SCREW, CD
F	8A-CDA-222-010		S-SCREW, CASS+2.6-4
G	87-751-096-410		VT2+3-10 GLD
H	87-751-097-410		VT2+3-12 W/O SLOT
I	87-501-092-410		VF3-4
J	87-721-074-410		QT2+2.6-8 W/O SLOT
K	87-751-096-410		VT2+3-10 W/O SLOT

## COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray

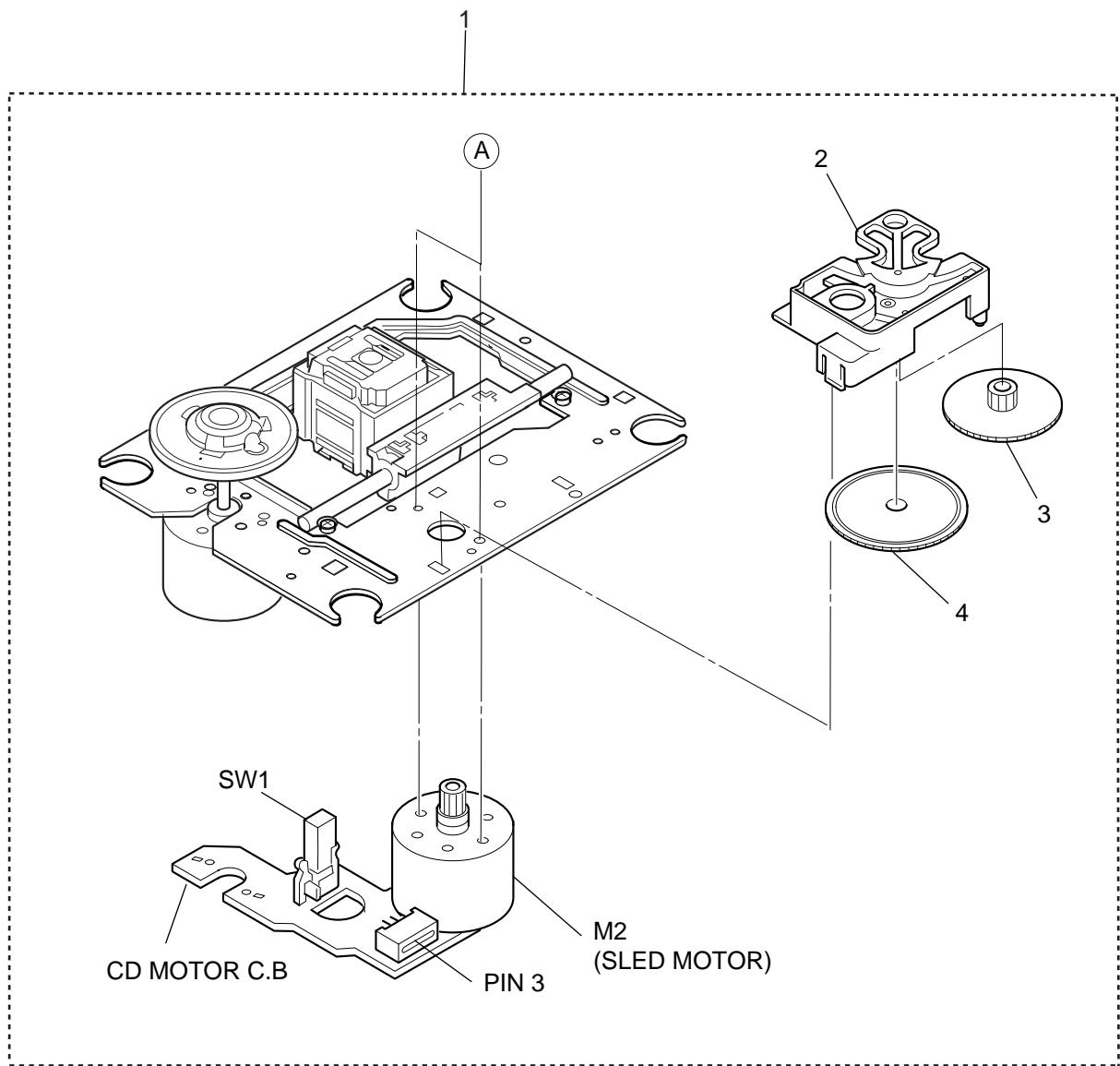
# TAPE MECHANISM EXPLODED VIEW 1 / 1



# TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM1-254-310		SPR-C, REEL R	31	87-A91-819-010		HEAD, EH 2NSS-2200
2	8Z-ZM1-225-110		GEAR, REEL R	32	8Z-ZM1-215-010		LEVER, REC LOCK
3	8Z-ZM1-253-210		SPR-C, AUTO SENSOR	33	87-A91-492-010		SW, LEAF MSW18560
4	8Z-ZM1-217-110		LEVER, AUTO SENSOR	34	8Z-ZM1-226-010		GEAR, REEL L
5	8Z-ZM1-212-110		LEVER, T-UP	35	8Z-ZM1-241-210		SPR-T, PLAY
6	8Z-ZM1-245-310		SPR-T, AUTO	36	8Z-ZM1-220-110		LEVER, REC SENSOR
7	8Z-ZM1-236-010		CLR, SLIP FF/REW	37	8Z-ZM1-249-210		SPR-T, FR
8	8Z-ZM1-252-110		SPR-C, FF/REW	38	8Z-ZM1-242-310		SPR-T, FF/REW
9	8Z-ZM1-230-010		GEAR, SLIP FF/REW A	39	8Z-ZM3-244-010		GEAR, CAM TD20
10	8Z-ZM1-269-010		FELT, FF/REW 2	40	8Z-ZM1-232-010		GEAR, IDL FF/REW
11	8Z-ZM1-238-110		GEAR, SLIP FF/REW B 2	41	82-ZM1-290-010		FLY-WHL ASSY, ZZM1
12	8Z-ZM1-237-110		LEVER, FF/REW 2	42	8Z-ZM1-275-010		W-L, 1.47-4-0.25
13	8Z-ZM1-283-010		LEVER, PAUSE 2	43	8Z-ZM1-228-010		GEAR, SLIP T-UP B
14	8Z-ZM1-222-010		LEVER, E-LOCK M	44	8Z-ZM1-265-010		FELT, T-UP
15	8Z-ZM1-219-010		LEVER, E-OPEN	45	8Z-ZM1-227-010		GEAR, SLIP T-UP A
16	8Z-ZM1-244-110		SPR-T, T-UP	46	8Z-ZM1-251-210		SPR-C, T-UP SLIP
17	8Z-ZM1-247-310		SPR-T, PINCH	47	8Z-ZM1-243-310		SPR-T, STOP/PAUSE
18	8Z-ZM1-261-110		ROLLER ASSY, PINCH	48	87-A91-825-010		MOT, M09Y/Z
19	8Z-ZM1-221-210		LEVER, PINCH	49	8Z-ZM1-271-010		PULLEY, MOT ZZM-1
20	8Z-ZM1-205-310		LEVER, PLAY	50	8Z-ZM1-264-010		BELT, MAIN S
21	8Z-ZM1-248-210		SPR-T, BRG	51	8Z-ZM1-260-010		SPR-P, CASSETTE
22	87-A92-207-010		HEAD, AP-4211T4	52	8Z-ZM1-201-910		CHAS ASSY, ZZM-1
23	84-ZM2-227-310		SPR-C, AZIMUTH	53	8Z-ZM1-255-310		SPR-T, E-LOCK
24	8Z-ZM1-216-110		LEVER, AUTO	54	8Z-ZM1-214-210		LEVER, LOCK
25	8Z-ZM1-246-110		SPR-T, AUTO 2	55	8Z-ZM1-257-110		SPR-C, F/R
26	8Z-ZM1-233-110		GEAR, IDL REW	A	84-ZM2-242-010		S-SCREW, AZ1-2-6.4
27	8Z-ZM1-208-010		LEVER, STOP	B	8Z-ZM1-270-110		V+2.6 ZZM-1
28	8Z-ZM1-207-010		LEVER, FF	C	87-B10-301-010		W-L, 1.63-3.2-0.5 SLIT
29	8Z-ZM1-206-010		LEVER, REW				
30	8Z-ZM1-211-210		LEVER, REC 2				

# CD MECHANISM EXPLODED VIEW 1 / 1



# CD MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	M8-ZZK-E90-070	DA11T3C	
2	S2-121-A28-400		COVER GEAR
3	S2-511-A21-000		GEAR MIDDLE
4	S2-511-A21-100		GEAR DRIVE
A	S1-PN2-03R-0SE		SCR PAN PCS 2-3

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